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FOREWORD

The year of 2001 dispelled the apprehensions about the new millennium. In retrospective, one might just acknowledge the adding of another link in the concatenation of years. And yet, there are no ordinary years in science, because the creative thinking, “deus ex machina” of science is always in action and pregnant with unexpected surprise. Continuously in focus of attention has been the sequence of human genome and the ensuing ideas. As it is, the discovery has been made of one important code, which has hitherto looked like cryptogram of the nature. There is a small question, however of what exactly the message is – to know that, a special and sustained effort must be made. It is heartening that the Estonian scientists can give a hand in solution of this.

The Parliament (Riigikogu) approved the research and development strategy “Knowledge based Estonia”. This document has inscribed in it the aspirations of the state, and key areas. The term key area is actually a figure of speech, implying the hypothetical existence of doors to which we theoretically should have the keys. It is contingent upon our stamina whether or not we can open the door. There is no underestimating of the Academy’s role in completing of the said document. I trust that Academy will contribute its utmost to help that strategy realise.

New directions of science and the stake of science in solution of problems of the society is the motif increasingly often resounding within the walls of the Academy. All this, thanks to the tireless effort of both Members of Academy and other scientists involved, who have prepared, drawing on their expert knowledge, the seminars, lectures, conferences etc.

Significantly growing in international co-operation is our participation in decision-making bodies, in the first place on the European scale. Naturally, underlying that activity is scientific co-operation in many directions. Activity has gained impetus both within the 5th Framework Programme and in projects and programmes of European Science Foundation.

Academy has suffered sad losses, however it has also complemented its research force. The power of the Academy derives primarily from the synergy of spiritual potential of Members of Academy, which we have made an all-out effort to develop. Besides the global trends of development, crucial for science, we are also to hold in due consideration the interests of our state, tiny as it is. For reasons quite objective, we can not run neck in neck with partners by orders of magnitude larger than we are. Still, it is our duty to do our utmost, as scientists to promote the state of Estonia, to make this country a better place to live in. Tacit inference of this Year Book is that the momentum of the beginning of the new century is on an upswing. I would dearly wish for that momentum to gain – for which more power of intellect to everybody!

Jüri Engelbrecht

MEMBERSHIP OF THE ACADEMY

As of beginning of 2001, the Estonian Academy of Sciences numbered 59 Members of Academy and 13 Foreign Members of Academy. In the year, the composition of membership changed.

On 18 March, at the age of 76 Member of Academy Viktor Masing departed. On 29 July, at the age of 85 Member of Academy Ilmar Õpik died.

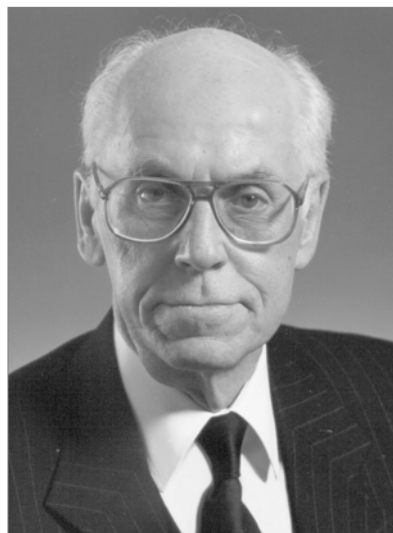
On 19 December, the General Assembly of the Academy elected two new Members of Academy, to the vacant seats earlier announced (from among 10 registered candidates):

in the area of biomedicine – Mart Ustav

in the area of the humanities – Lennart Meri.



Mart Ustav



Lennart Meri

Members of Academy and Foreign Members distributed between four Divisions as follows:

DIVISION OF ASTRONOMY AND PHYSICS

(15 Members of Academy, 3 Foreign Members)

Members of Academy: Jaak Aaviksoo, Jaan Einasto, Ene Ergma, Vladimir Hizhnyakov, Harald Keres, Georg Liidja, Endel Lippmaa (Head of Division), Ülo Lumiste, Cheslav Lushchik, Karl Rebane, Peeter Saari, Mart Saarma, Arved-Ervin Sapar, Gennadi Vainikko, Richard Villems.

Foreign Members: Charles Gabriel Kurland, Jaan Laane, Indrek Martinson.

DIVISION OF INFORMATICS AND ENGINEERING

(13 Members of Academy, 3 Foreign Members)

Members of Academy: Olav Aarna, Hillar Aben, Jüri Engelbrecht, Ülo Jaaksoo, Lembit Krumm, Valdek Kulbach, Rein Küttner (Head of Division), Ülo Lepik, Leo Mõtus, Arvo Ots, Boris Tamm, Enn Tõugu, Raimund-Johannes Ubar.

Foreign Members: Antero Jahkola, Endrik Nõges, Michael Godfrey Rodd.

DIVISION OF BIOLOGY, GEOLOGY AND CHEMISTRY

(19 Members of Academy, 4 Foreign Members)

Members of Academy: Pavel Bogovski, Jaak Järv (Head of Division), Ain-Elmar Kaasik, Dimitri Kaljo, Ilmar Koppel, Hans Küüts, Agu Laisk, Ülo Lille, Udo Margna, Jüri Martin, Viktor Palm, Erast Parmasto, Anto Raukas, Loit Reintam, Juhan Ross, Valdur Saks, Hans-Voldemar Trass, Mart Ustav, Mihkel Veiderma.

Foreign Members: Carl-Olof Jacobson, Johannes Piiper, Jānis Stradiņš, Ivar Ugi.

DIVISION OF THE HUMANITIES AND SOCIAL SCIENCES

(12 Members of Academy, 3 Foreign Members)

Members of Academy: Mihhail Bronshtein, Raimund Hagelberg, Arvo Krikmann (Head of Division), Arno Kõörna, Viktor Maamägi, Uno Mereste, Lennart Meri, Juhan Peegel, Huno Rätsep, Karl Siilivask, Peeter Tulviste, Haldur Õim.

Foreign Members: Els Oksaar, Päiviö Tommila, Henn-Jüri Uibopuu.

By the time this Year Book came out of print, the Academy had lost one more Member – on 5 February 2002 Member of Academy Boris Tamm died.

In 2001, the majority of Members of Academy continued, as leading expert scientists, doing active research and working on faculty.

Research done by Members of Academy was very fruitful, as a whole, as revealed by numerous publications.

Besides their main occupation, many Members of Academy acted as experts and advisers. Following Members of Academy sit on national expert panels and councils:

Academic Council of the President of the Republic (until 06.09.2001)
– Jaak Aaviksoo, Hillar Aben, Jaan Einasto, Jüri Engelbrecht, Raimund Hagelberg, Ain-Elmar Kaasik, Erast Parmasto, Mihkel Veiderma and Richard Villems;

Research and Development Council – Jaak Aaviksoo, Jüri Engelbrecht, Mart Saarma;

Science Competence Council – Jüri Engelbrecht (Chairman of the Council), Leo Mõtus and Loit Reintam;

Council of Estonian Science Foundation – Ene Ergma (Chairman of the Council), Ilmar Koppel, Rein Küttner and Mihkel Veiderma;

Commission of National Science Prizes – Jüri Engelbrecht (Chairman of the Council), Hillar Aben, Ene Ergma, Ain-Elmar Kaasik, Dimitri Kaljo, Ilmar Koppel, Hans Küüts and Georg Liidja.

Members of Academy Jüri Engelbrecht, Rein Küttner and Mihkel Veiderma sit on the Sustainable Development Commission, reporting to Government of the Republic.

Members of Academy Hillar Aben, Rein Küttner and Mart Saarma are members of Higher Education Evaluation Council.

Members of Academy Ülo Jaaksoo, Rein Küttner and Richard Villems are members of Technology and Innovation Council, reporting to Minister of Economical Affairs.

Members of Academy Ene Ergma, Jaak Järv, Rein Küttner, Endel Lippmaa and Peeter Tulviste sit on the Ministry of Education Advisory Panel for Science Policy.

Members of Academy Jaak Aaviksoo, Jüri Engelbrecht and Rein Küttner are members of the Minister of Foreign Affairs Advisory Council.

Member of Academy Dimitri Kaljo is Chairman of Estonian Mineral Resources Commission.

Member of Academy Ene Ergma is member of Estonian-Russian Intergovernmental Co-operation Commission.

Members of Academy Ülo Jaaksoo, Leo Mõtus and Peeter Saari are members of Working Group on Planning of the Development of Military Education and Science of War, with Member of Academy Boris Tamm Chairman of the Working Group.

Member of Academy Ain-Elmar Kaasik is Chairman of Registration Commission of State Agency of Medicines.

Members of Academy Ain-Elmar Kaasik, Mart Saarma and Richard Villems are members of Council of Estonian Gene Repository.

Many Members of Academy continue in editorial boards of international scientific organisations and scientific journals.

Member of Academy Mart Saarma was awarded Väino Tanner Foundation Science Prize and was elected Member of Tanner Academy (Finland).

In the reporting year, many Members of Academy were awarded marks of honour, both Academic and national (cf. pp. 52).

Foreign Members of the Academy continued participation in the activity of Academy and research institutions of Estonia, maintaining the time honoured contacts and earlier scientific engagements.

CRONICLES

10–12 January – President Jüri Engelbrecht attended the Days of Finnish Science in Helsinki and signed the renewed co-operation agreement between the Estonian Academy of Sciences and Academy of Finland.

16 January – Division of Biology, Geology and Chemistry convened a topical seminar “Reform of Estonian higher education system”.

19 January – President Jüri Engelbrecht attended the official meeting with Prime Minister of Czech Republic Miloš Zeman.

22 January – Division of Informatics and Engineering, Tallinn Technical University and Tallinn House of Scientists organised lectures to commemorate Member of Academy Leo Jürgenson’s 100th anniversary. On behalf of the Academy, President Jüri Engelbrecht laid a wreath on Leo Jürgenson’s grave.

23 January – session of the Board of the Academy discussed the proposals to complement the state strategy of scientific and development activities and recommended that three key areas be included therein: information society and innovative technologies; biomedicine and its applications; materials studies and their applications. The session approved the plan of the Academy for 2001 of meetings and key events and approved the Academy budget for 2001. Proposed to the composition of council of the Foundation “Executive agency of gene bank” were Members of Academy Ain-Elmar Kaasik, Mart Saarma and Richard Villems. The session complemented the composition of Energy Council (Vice-Chairman Member of Academy Rein Küttner). The session considered it important to continue centralised payment of fees for membership in international organisations, requesting of Ministry of Education a respective allocation into Academy’s budget.

23 January – the Estonian Academy of Sciences made an association agreement with Estonian Learned Society and Estonian Literary Society.

25 January – President Jüri Engelbrecht signed a renewed co-operation agreement between the Estonian Academy of Sciences and Royal Swedish Academy of Sciences.

30–31 January – Estonian Union of the History and Philosophy of Science organised the 20th Baltic Conference on the History of Science. Chairman of Organising Committee was President Jüri Engelbrecht, Chairman of Programme Committee Vice-President Peeter Tulviste.

5–8 February – there were held working negotiations within the framework of the US-Estonian programme on oil shale research, and also the extended meeting of the joint co-ordination committee.

21 February – Foreign Member of Academy Antero Jahkola delivered a public academic lecture “Strategy of prevention of climatic change in Finland”.

24 February – Prime Minister Mart Laar handed over, in the Academy premises the national science prizes.

28 February – Board of the Academy decided, in co-ordination with the Estonian Science Foundation, to propose, as Estonian candidates to sit on the standing European Research Advisory Board (EURAB): Ene Ergma, Chairman of Council of Estonian Science Foundation; Jüri Engelbrecht, President of the Estonian Academy of Sciences.

9 March – there was held a conference of the Academy Board, Cultural Affairs Committee of Riigikogu and leadership of Borough of Nõmme, discussing the development plans of Under and Tuglas Literature Centre.

14 March – there was organised, as a joint event of Literary Museum and Division of the Humanities and Social Sciences, the seminar to commemorate Kristjan Jaak Peterson’s 200th anniversary “Kristjan Jaak Peterson and beginning of Estonian national literature”.

14 March – members of the Academy Board visited the Port of Tallinn and met with management of the Port.

18 March – Member of Academy Viktor Masing died. Funeral ceremony was held in the Hall of Tartu University on 23 March.

20 March – the session of the Academy Board approved the consolidated report of financial activity of the Academy in 2000 and the consolidated budget for 2001. It was decided to submit those to the General Assembly for final approval. The session decided to amend the regulations of Academy’s research grants and appointed a respective commission (Chairman Vice-President Ene Ergma). There was set up the council of scientific societies associated with the Academy, for analysis of activity of scientific societies and for planning their further work. In line with the propositions of scientific societies, the session approved the body of council of scientific societies (Chairman President of Estonian Geographical Society Jaan-Mati Punning). The Board of the Academy decided to establish a National Commission of International Biodiversity Observation Year attached to the Estonian Academy of Sciences (chaired by Member of Academy Erast Parmasto). There were changes made in the composition of technical advisory panel of the US-Estonian oil shale research programme. There were issued recommendations to Ministry of Education, concerning the state order for training in higher education establishments. Member of Academy Boris Tamm was nominated representative of Estonia in the programme of monitoring technological development with EU Institute of United Research Centre.

23 March – in the series “From science to society” there was the fourth seminar “Marine research and its applications” (cf. p. 40).

6 April – President Jüri Engelbrecht attended the regular session in Prague of Council of European Science Foundation.

18 April – at the annual meeting of General Assembly of the Academy President Jüri Engelbrecht provided an overview of activities of the Academy. The meeting approved the report of the Academy for 2000 and the 2001 budget. Innovation in Estonian economy was the topic of speech by Minister of Economic Affairs Mihkel Pärnoja. The meeting adopted an appeal to Riigikogu and Government of Republic, to secure the science based development of the Estonian society.

18 April – Association All European Academies (ALLEA) confirmed that Vice-President Ene Ergma had been made member of Standing Committee “Science and Ethics” of ALLEA.

22 April – President Jüri Engelbrecht, Vice-President Ene Ergma and Secretary General Mihkel Veiderma participated at festive finale of Year of Estonian Book, with paper delivered by Vice-President Peeter Tulviste.

25–27 April – Secretary General Mihkel Veiderma participated at session of General Assembly of Latvian Academy of Sciences, dedicated to 800th anniversary of the town of Riga. He handed over greetings from the Estonian Academy of Sciences and discussed working issues with the leadership of Latvian Academy of Sciences.

25 April – Member of Academy Erast Parmasto delivered a public academic lecture “Current abundance of species in living nature – how are we to bring that information into order?”

4 May – in the Academy premises, there was held a topical seminar, moderated by Member of Academy Jaak Järv “Digital scientific information and scientific libraries” (cf. p. 41).

11 May – Premises of Estonian Academic Library witnessed the exposition “Proceedings of the Estonian Academy of Sciences, 50”.

15 May – Board of Academy held an extended session in Tartu, discussing the science based university education, drawing on papers delivered by Member of Academy Jaak Aaviksoo and Science Policy Counsellor of Ministry of Education Rein Vaikmäe. The Board decided to appeal to the Government of Republic to fund the higher education and R&D activities in 2002 on the level at the lesser of 1999 level, adjusted to GDP and growth of CPI. It was decided to announce a competition to two vacant Members of Academy seats. There was established, under the aegis of the Academy, the Population and Public Health Council. Approved also was its composition (Chairman Member of Academy Ain-Elmar Kaasik). There were announced the year 2001 scientific prizes to students, and a respective assessment commission nominated (Chairman Member of Academy Georg Liidja). The Board awarded the Academy’s

2001 research grants for monographic scientific works and for compiling popular science books (cf. p. 47).

18 May – the town of Kuressaare welcomed the Estonian Academy of Sciences convened “Day of Science”. President Jüri Engelbrecht spoke of science on the threshold of 21st century, Professor of Tartu University Helgi Silm deliberated about Professor Aleksander Paldrok – pathfinder of Estonian school of dermatology-venereology and Professor of Tartu University Rein Teesalu about high blood pressure as a topical medical problem. Participants paid homage to Member of Academy Aleksander Paldrok, visiting his grave, thus commemorating his 130th anniversary.

25 May – President Jüri Engelbrecht attended, upon invitation by President of the Republic, the meeting with President of Ireland.

25 May – there was held the session of Academy’s Energy Council (cf. p. 42), discussing the issue of privatisation of Narva Power Plants. The session decided to appeal to Government of Republic, suggesting that the conditions of the so-called NRG agreement be reviewed.

27 May – 02 June – Vice-President Peeter Tulviste attended the annual meeting in Beijing of Union Académique Internationale (UAI).

29 May – Head of Division of the Humanities and Social Sciences Member of Academy Arvo Krikmann laid a wreath on grave of Member of Academy Alfred Koort, commemorating his 100th anniversary.

10–11 June – Stockholm hosted the 8th Annual meeting between the Social Sciences Standing Committee core group and senior research administrators of the European Science Foundation member organisations. Estonian Academy of Sciences was represented by Foreign Secretary Dimitri Kaljo.

15–16 June – Tallinn welcomed the 8th Baltic Conference on Intellectual Co-operation, moderated by the Estonian Academy of Sciences (cf. p. 38)

15 June – Presidents of Estonian, Lithuanian and Latvian Academies of Sciences signed, during meeting of delegations of the Academies, the new additional protocol of trilateral co-operation agreement between the Academies.

19 June – the Board of the Academy held a session, announcing election of two Members of the Estonian Academy of Sciences, one in the area of biomedicine, another in the area of the humanities. The session approved the statute of Bernhard Schmidt prize. The session approved the composition of series Biology and Ecology of Proceedings of the Academy of Sciences (Chairman Member of Academy Udo Margna). There was passed a decision to award the Estonian Academy of Sciences Medal to Member of Academy Ülo Lepik and Member of Academy Arvo Ots. The extended meeting of the Board of the Academy, held on that same day heard two papers. They were “Scientific centres of excellency”: “Policy of centres of excellency as practised in

Finland” by Sipo Vanhanen (Academy of Finland) and “Experience of implementation of the EU centre of excellency “Geenemill” by Member of Academy Richard Villems. President Jüri Engelbrecht presented the summary of discussion. After the session, there was the presentation of the book “National Science Prizes 2001”.

19 June – President Jüri Engelbrecht signed a frame agreement on development of co-operation relations between the Estonian Academy of Sciences and Spanish Council of Scientific Research.

20 June – there was delivered at Academy premises the lecture by President of Catalonian autonomic district of Spain, Doctor of Medicine Jordi Pujol “Language, Culture and Economy in the Small Countries in the EU”.

26 June – the Academy premises hosted the presentation of no. 2/2001 of the series Engineering of Proceedings of the Academy “Hydrodynamics and geology of deep harbour in Saaremaa”.

27–28 June – President Jüri Engelbrecht attended, with a paper, the international scientific conference in Brussels, organised by European Commission “An Enlarged Europe for Researchers”.

27–30 June – there was held, moderated by Tartu University the 4th Conference on Baltic Studies in Europe: Baltic States and Societies in Transition: Con-tinuity and Change. Chairman of Steering Committee of the Conference was Peeter Tulviste, who also delivered a plenary paper. Member of the Steering Committee Arvo Krikmann headed the work of ethnology and folklore sections.

5 July – updated was the appendix to Co-operation Agreement between the Estonian Academy of Sciences and Academy of Sciences of the Czech Republic specifying the rules and conditions of exchange of scientists.

28 July – President Jüri Engelbrecht participated upon invitation of President of the Republic, at the meeting with President of France Jacques Chirac.

29 July – Member of Academy Ilmar Öpik died. Funeral ceremony was held in Academy premises on 2 August.

6 August – Ambassador of the United States Melissa Wells met with President Jüri Engelbrecht, in the Academy premises.

21 August – Chairman of Academy’s Energy Council Mihkel Veiderma and Member of Council Endel Lippmaa declared the negative standpoint of the Council, at session of Government, in respect of the so-called NRG agreement, on the existing terms and conditions.

6 September – Palace of Kadriorg was the venue of presentation of the book compiled by Member of Academy Mihkel Veiderma “Mindful of Estonia” organised by Chancellery of President of the Republic.

14 September – British Ambassador Sarah Squire and Professor of Archaeology of Cambridge Lord A. C. Renfrew met with President Jüri Engelbrecht, in the Academy premises.

14 September – Academy premises were the venue, within the framework of Dome Days, of school students' conference "Town and its protection", opened by President of the Academy Jüri Engelbrecht

17 September – Academy premises were venue of presentation of a book by Professor Raimo Pullat, elected Foreign Member of Polish Academy of Sciences and Arts "From Versailles to Westerplatte. Estonian-Polish relations between two Worlds Wars", attended also by Ambassador of Poland in Estonia Wojciech Wroblewski.

17–18 September – President Jüri Engelbrecht participated at international conference of the Belgian Presidency of the EU Research Council in Brussels. Member of Academy Engelbrecht delivered the paper in a parallel session and later presented the results of this session at the final plenary session.

18 September – the session of Board of the Academy registered ten scientists, subject to applications received, as candidates for election of Members of Academy. They were, in the area of biomedicine: Raivo Uibo, Mart Ustav, Eero Vasar, Toomas Veidebaum, Atko-Meeme Viru; in the area of the humanities: Toomas Karjahärm, Lennart Meri, Toomas Paul, Jaan Ross, Jaan Undusk. The Board approved the time schedule of election of Members of Academy.

19 September – Professor Ferdinand Hucho, member of Berlin-Brandenburg Academy of Sciences visited the Academy and met with Secretary General Mihkel Veiderma.

20–21 September – President Jüri Engelbrecht participated at regular meeting of European Science Foundation in Strasbourg.

21–23 September – President Jüri Engelbrecht participated at science forum in Neuchâtel (Switzerland) convened by Charles Leopold Mayer Foundation.

24 September – there was held a scientific seminar "Systems research in energetics", organised by Division of Informatics and Engineering and the Energy Council of the Academy, together with Baltic Energy Systems Research Association (BEUA), Estonian Energy Research Institute and Institute of Electric Energy at Tallinn Technical University.

24–25 September – Deputy Secretary General Galina Varlamova attended the international conference in Oslo, convened to draw conclusions on co-operation programme with Central and Eastern Europe of Norwegian Council for Higher Education and Research Council of Norway.

25 September – there was the traditional joint discussion between Board of the Academy and scientific institutions associated with the Academy, in the given case with Tartu Observatory.

25–27 September – Vilnius hosted the seminar convened by Lithuanian Academy of Sciences, to discuss the organisational aspects of international scientific relations. Attending the seminar was Deputy Secretary General for International Relations Anne Põitel.

26 September – Member of Academy Georg Liidja delivered an academic public lecture “Men in the fields of radiation”.

28 September – leadership of the Academy participated at celebration of 30th anniversary of Museum of Under and Tuglas Literature Centre. Academy’s greetings were passed over by President Jüri Engelbrecht

2 October – Member of Parliament of Federal Republic of Germany, President of Union of Exiles Erika Steinbach laid a wreath at the monument of soldiers of the Baltic Regiment fallen in War for Independence, in the courtyard of the Academy premises. She met with Academy’s leadership and familiarised herself with the activities of the Estonian Academy of Sciences.

5 October – Academy held, jointly with the Estonian Science Foundation, Council of Science Competence and Union of Estonian Scientists the conference “Estonian science reform – advantages and disadvantages” (cf. p. 39).

9–11 October – Secretary General Mihkel Veiderma sojourned in Vilnius, as guest of Lithuanian Academy of Sciences, participating in meeting of Secretaries General of Academies of the Baltic States.

16 October – Board of the Academy decided to decorate Head of the Museum of Under and Tuglas Literature Centre A. Eelmäe with the Medal of the Academy of Sciences.

26 October – there was held the fifth seminar in the series “From science to society” – “Climatic changes and forecast of its impact” (cf. p. 40).

26 October – there was a joint seminar of the Division of the Humanities and Social Sciences of the Estonian Academy of Sciences and Division of Semiotics of Tartu University “Semiotic shift in science”.

26–28 October – Vice-President Ene Ergma attended at meeting of Standing Committee “Science and Ethics” of ALLEA, held in Paris.

30 October – the session of the Board of the Academy, held at Museum of Under&Tuglas Literature Centre, heard the report of scientific secretary Piret Kruuspere on activity of Literature Centre. The work of the Literature Centre was assessed as successful. President Jüri Engelbrecht handed over to A. Eelmäe, Head of the Museum the Medal of the Academy of Sciences, and to V. Kruut, Treasurer the Letter of Thanks of the Academy. The Board heard the information on compiling of Estonian Science Ethics Code and decided to

submit it to the General Assembly for approval, after making some additions. The Board established a Commission for assignment of Bernhard Schmidt Prize (Chair-man Member of Academy Leo Mõtus). The Board discussed the reorganisation of Estonian Academic Library and held that it was necessary to preserve the integrity of the Library. The Board discussed the establishment of national electronic library. Members of Academy Mihkel Veiderma and Endel Lippmaa provided an overview on circumstances related to privatisation of Estonian Power Plants. The Board authorised them to make a respective summary and submit it to the Chancellery of President of the Republic.

1–2 November – there was held, convened by the Estonian Academy of Sciences and Finnish Academies of Technology the Baltic-Finnish conference “Energetics – from research to innovation” (cf. p. 39).

5 November – President Jüri Engelbrecht participated, upon invitation of President of the Republic, at the meeting with Prince Charles.

5–11 November – Chairman of Academy’s Energy Council Mihkel Veiderma sojourned in Holland, participating at 16th annual European Gas Conference, with the venue in Noordwijk aan Zee.

10–13 November – Deputy Secretary General for International Relations Anne Põitel attended in Prague the annual European Science Exchange Programme Partners Meeting, organised by Royal Society of London and British Academy.

20–21 November – President Jüri Engelbrecht belonged to the retinue of officials, accompanying the President of Republic in his state visit to Finland.

21 November – Member of Academy Haldur Õim and Member of Academy Arvo Krikmann delivered a public academic paper “Problems of contemporary cognitivism”.

22–23 November – President Jüri Engelbrecht and Vice-President Ene Ergma participated, as representatives of Estonian member organisations at a session of General Assembly of European Science Foundation in Strasbourg.

4 December – session of Board of the Academy took cognisance of the fact that Division of the Humanities and Social Sciences had relieved Member of Academy Arvo Krikmann of duties of Head of Division, upon his own request. Member of Academy Peeter Tulviste had been elected the new Head of Division. The session proposed that the Conference of Nordic and Baltic Academies of 22–23 April 2002 should consider, as a topic on the agenda, the northern dimension of European research area. Furthermore, it should make an emphasis on co-operation between Nordic and Baltic Academies in R&D and innovation. The session approved the statute of Council of Population and Public Health. Bernhard Schmidt Prize for application of scientific and development work was awarded to doctoral student of Tartu University Rünno Lõhmus for the work “Universal autofocus assisted microscope for instruction in manufacturing and technology”.

4 December – there was held the conference of winners of academic competition of student papers (cf. p. 49).

6 December – President Jüri Engelbrecht made a supplementary report in Riigikogu on Estonian strategy of scientific and development activity 2002-2006 “Knowledge-based Estonia”.

6 December – there was held a session of Council of Scientific Societies Associated with the Academy. Attending were representatives of Estonian Naturalists’ Society, Estonian Geographical Society, the Society of Estonian Regional Studies, Estonian Mother Tongue Society, Estonian Union of the History and Philosophy of Science, Estonian Society of Literature and Estonian Learned Society. The session discussed the activity of the societies and planned common events.

10 December – there was meeting of Publishing Council, discussing the activity of the Academy Publishers and the perspectives for development.

11 December – there was held an annual meeting of Council of Estonian Academic Foundation for International Exchange. Council heard the overview of Foreign Secretary Dimitri Kaljo of exchange of scientists in 2001, discussed the principles of participation in international exchange, approved the rates of expenditure on reception of visiting scientists and scrutinised and passed a decision on applications for international exchange on 2002.

12 December – at Academy premises, there was a festive meeting to celebrate the 50th volume of Proceedings of the Estonian Academy of Sciences.

19 December – session of General Assembly of the Academy heard the scientific paper by Member of Academy Karl Rebane “Phonon free lines in spectra of solids activated with impurities, as cornerstone of nicking of spectra and one molecule spectroscopy”. It was decided to take the draft Estonian Science Ethics Code as the basis, to complete the Code. The session approved body of the Council of Population and Public Health of the Estonian Academy of Sciences. The session took cognisance of the fact that Division of the Humanities and Social Sciences had relieved Member of Academy Arvo Krikmann of duties of Head of Division, upon his own request, and had elected Member of Academy Peeter Tulviste the new Head of Division, effective from 1 January 2002. There was held election of two Members of Academy. Out of ten registered candidates, elected Member of the Estonian Academy of Sciences in the area of biomedicine was Mart Ustav, in the area of the Humanities Lennart Meri. There was the year-end reception of President of the Estonian Academy of Sciences.

GENERAL ASSEMBLY, BOARD, DIVISIONS

GENERAL ASSEMBLY

In 2001, the General Assembly of the Academy was convoked to a regular session two times.

- 18 April – annual meeting
- 19 December – scientific paper “Phonon free lines in spectra of solids activated with impurities, as cornerstone of nicking of spectra and one molecule spectroscopy”;
discussion of the Science Code;
establishment of Population and Public Health Council;
election of Members of Academy

The first session of the General Assembly was held as annual meeting of the Academy, being the 55th in succession. As ever, the session focused on summing up the activities of the Academy in the previous year (2000). The General Assembly also approved the consolidated financial statement of the Academy in 2000 and the 2001 budget estimate. Detailed data on activities of the Academy in 2000 were made available in the newly published Estonian Academy of Sciences Year Book VI (33), in good time mailed to all Members of Academy.

President of the Academy Jüri Engelbrecht delivered the main paper of the annual meeting. He made an emphasis on the fact that the reporting year had been primarily the year of organisation of science and mapping the plans for the future. He considered it important to have the Research and Development Act amended, to lay down the R&D strategy, as well as to establish key areas of research. He also pointed out that mapping out of programmes of key areas would call for a strenuous effort, with the aim to harmonise fundamental and applied research with the related development activities. President attributed much importance to appropriate political decisions and excellent co-operation between Ministry of Education and Ministry of Economic Affairs.

President strongly underlined his conviction that in the forthcoming years the development of society would be much dependent on nano-, bio- and information technology. Of crucial importance is decoding of human genome, which would open a new era in the gene science. President highlighted the participation of Estonia in EU 5th Framework Programme and its joining the European Science Foundation, as well as widening of international co-operation.

Regarding the activity of the Academy the President considered, as a most important event, the composition of the development plan of the Academy and the role of the Academy in mapping new trends in science and elucidation of vital nodes. He also welcomed the opening of a new series of seminars “New trends in science”. President pointed out the active involvement of Members of Academy in decision-making bodies, to improve the meaningful and organisational side of Estonian scientific life, in scientific research and its management. Upon move by President, the General Assembly approved the report of 2000 of the Academy, basing on materials presented in Year Book 2000.

Present at the session was Minister of Economic Affairs Mihkel Pärnoja, speaking on the topic “Innovation in Estonian economy”.

During discussion, speaking were Members of Academy Endel Lippmaa, Boris Tamm, Dimitri Kaljo, Karl Siilivask, Ain-Elmar Kaasik, Lembit Krumm and Ilmar Öpik.

The General Assembly of the Academy, having heard out the reports by President Jüri Engelbrecht and Economics Minister Mihkel Pärnoja about the trends of R&D activities, decided to appeal to Parliament and Government of the Republic and request funding of 2002 R&D activities from state budget.

Having heard the commentaries of Secretary General Mihkel Veiderma, the General Assembly discussed and approved the budget estimate 2001 of the Academy, presented on p. 85.

The second regular session of General Assembly was held on 19 December. At the beginning of that session, President Jüri Engelbrecht handed over to the doctoral student of Tartu University Rünno Lõhmus the Bernhard Schmidt R&D Prize (cf. p. 46).

A scientific paper on topic “Phonon free lines in spectra of solids activated with impurities, as cornerstone of nicking of spectra and one molecule spectroscopy” was delivered by laureate of 2001 national prize for long productive research and development work Member of Academy Karl Rebane.

The report on presentation of draft Science Ethics Code was delivered by Vice President Ene Ergma. Followed deliberations, interventions and propositions by Members of Academy Udo Margna, Arved-Ervin Sapar, Arvo Ots, Dimitri Kaljo, Leo Mõtus, Juhan Ross, Anto Raukas, Jaak Aaviksoo, Karl Rebane and Viktor Palm. It was decided to base on the draft, while completing the code.

The General Assembly heard out the information by Member of Academy Ain-Elmar Kaasik about setting up Population and Public Health Council. On that issue, speaking were Members of Academy Valdek Kulbach, Jaak Aaviksoo, Udo Margna and Mart Saarma. It was acknowledged that the problems of population and public health in Estonia merit wider attention, and scientific

analysis. It was decided to approve establishment of Estonian Academy of Sciences Population and Public Health Council. The session took cognisance of composition and statute of the Council, approved by the Board.

Secretary General Mihkel Veiderma announced to the General Assembly the decision of General Meeting of Division of the Humanities and Social Sciences, to accept the resignation of Member of Academy Arvo Krikmann from the office of Head of Division and to elect Member of Academy Peeter Tulviste in his place. General Assembly of the Academy took cognisance of decision of the General Meeting of the Division and considered Vice President Peeter Tulviste's office combined with the post of Head of Division as from 1 January 2002.

In the second part of the session, new Members of Academy were elected. Two vacancies had been announced: one in biomedicine and another in the humanities. Out of five candidates put on the slate by Members of Academy, scientific institutions and societies (Raivo Uibo, Mart Ustav, Eero Vasar, Toomas Veidebaum, Atko-Meeme Viru), Mart Ustav was elected Member of Academy in biomedicine. Out of five candidates in the humanities (Toomas Karjahärm, Lennart Meri, Toomas Paul, Jaan Ross, Jaan Undusk) Lennart Meri was elected Member of Academy.

There was presentation of the volume "Estonian science reform – advantages and disadvantages".

BOARD

Board of the Academy continued in 2001 in the same composition as it was elected by the General Assembly on 15 December 1999:

President	<i>Jüri Engelbrecht;</i>
Vice-Presidents	<i>Ene Ergma; Peeter Tulviste;</i>
Secretary General	<i>Mihkel Veiderma;</i>
Head of Division of Astronomy and Physics	<i>Endel Lippmaa;</i>
Head of Division of Informatics and Engineering	<i>Rein Küttner;</i>
Head of Division of Biology, Geology and Chemistry	<i>Jaak Järv;</i>
Head of Division of the Humanities and Social Sciences	<i>Arvo Krikmann;</i>
Non-Executive Members	<i>Ülo Jaaksoo; Ain-Elmar Kaasik; Dimitri Kaljo; Richard Villems.</i>

In that year the Board held 8 working meetings. Four times, the decisions were passed by electronically polling the opinions.

In the first session of the year (23 January) the Board approved the calendar plan of 2001 working meetings and keynote events.

At two sessions, the Board discussed the issues of Estonian research and development strategy. It made recommendations on key areas (information society and innovative technologies; biomedicine and its applications; materials science and its applications) and approved the proposals to supplement the text of draft strategy and to alter its build-up. The Board took cognisance of President Jüri Engelbrecht's information on the need to amend Research and Development Act. The sessions of the Board discussed and submitted for approval by General Assembly the draft Estonian Science Ethics Code.

Board accepted the appeal of Estonian Learned Society and Estonian of Literary Society to associate with Estonian Academy of Sciences. On 20 March, there was set up the Council of Academy-Associated Scientific Societies (Chairman Professor Jaan-Mati Punning).

Three times, there were held extended sessions of the Board. On 15 May there was the session in the hall of Council of Tartu University, with the key issue on agenda "Science based university education", attended by representatives of Ministry of Education and higher education establishments. There were papers delivered by Rector of Tartu University Member of Academy Jaak Aaviksoo and Head of Department of Science and Higher Education of Ministry of Education Rein Vaikmäe. As a result of discussion, the session decided to appeal to Government of Republic to fund the higher education and R&D activities in 2002 on the level at the lesser of 1999 level, adjusted to GDP and growth of CPI.

On 19 June there was the extended session of Board on the topic "Scientific centres of excellency", attended by Members of Academy and representatives of universities and scientific establishments. The paper "Policy of centres of excellency as practised in Finland" was delivered by Sipo Vanhanen of Academy of Finland. The session heard out the report by Member of Academy Richard Villems "Experience of implementation of the EU centre of excellency "Geenemill"". President Jüri Engelbrecht presented the summary of discussion.

On 30 October there was held a session at Under&Tuglas Literature Centre, with an aim to look at activity of the Literature Centre, which was found overly good. The session heard out overviews of privatisation of Narva power plants and the respective standpoint of Energy Council of the Academy. The Board assigned to Member of Academy Mihkel Veiderma and Member of Academy Endel Lippmaa the task to make a respective summary and submit it to Chancellery of President of the Republic. Attending at the session was Director of Chancellery of President of the Republic Tarmo Mänd.

In connection with the election at the end 2001 of Members of Academy, the related issues were several times on agenda of Board meetings. On 15 May, it was decided to open vacancies to two vacant Member-of-Academy seats. On 19 May the Board indicated the specialities of vacancies, on 18 September the Board recorded 10 candidates for the position of Member of Academy and approved the time schedule, to prepare the election. On 30 October the Board heard reports by Heads of respective Divisions about discussions in General Meetings of Divisions.

There was set up, under the aegis of the Academy, the Estonian Commission of International Biodiversity Observation Year (Chairman Member of Academy Erast Parmasto). The Board decided to set up, with the aim to analyse and direct the respective research work on population and public health, under the aegis of the Academy, the Population and Public Health Council (Chairman Member of Academy Ain-Elmar Kaasik). It also approved the Statute of the Council.

After the meeting on 4 December, the Board heard five papers of winners of competition of student research papers and handed over the diplomas.

A material chunk of the work of the Board was constituted by discussions and adoption of decisions on issues, related to the daily routine of the Academy. Among others, the Board considered and approved, for subsequent submitting to General Assembly, the statement of financial activities of Academy for 2000, and the budget estimate for 2001. It assigned, by a public competition, the Academy grants for completion and getting ready for publishing monographic research and popular science books. The Board also approved the respective regulations and the composition of Assessment Commission (Chairman Member of Academy Ene Ergma), whose proposal to establish the grants was approved. There was established the Bernhard Schmidt prize, to mark the achievements of young scientists and engineers in development work. There was also approved the statute of the prize and the composition of the commission (Chairman Member of Academy Leo Mõtus) and the latter's decision on assignment of the prize. The Board approved the Academy's Commission for awarding science prizes to students (Chairman Member of Academy Georg Liidja) and took cognisance of the decision of the Commission. The Board also heard out and took cognisance of information on organisation of Baltic Conference on Intellectual Co-operation and conference of Baltic and Nordic Academies of Sciences planned for 2002. The Board discussed the issues related to preparation of seminar "Organisation of scientific libraries". The Board heard out the overview by Member of Academy Dimitri Kaljo on work of commission set up under Ministry of Education on reorganisation of Estonian Academic Library. The Board approved the proposal of Member of Academy Jaak Järv to establish a national electronic network of libraries and assigned to him the task to submit respective material to the Board. The Board

took cognisance of the decision of Division of the Humanities and Social Sciences on Head of Division. It discussed and approved the agendas of General Assemblies and passed decisions on awarding with Medals of the Academy.

The Board repeatedly considered the compositions of different councils and commissions, and appointment of Estonia's representatives to international scientific organisations. Board decided to present as candidates to Standing Council "European Research Advisory Board" Chairman of Estonian Science Foundation Ene Ergma and President of the Academy Jüri Engelbrecht. The Board made changes in scientific-technical advisory panel of the US-Estonian oil-shale research related programme. Nominated Deputy Chairman of Academy's Energy Council was Member of Academy Rein Küttner. Board nominated Member of Academy Boris Tamm representative of Estonia in the programme of monitoring technological development with EU Institute of United Research Centre. Proposed to sit on Council of Foundation "Executive Agency of Gene Bank" were Members of Academy Ain-Elmar Kaasik, Mart Saarma and Richard Villems. The Board approved the composition of editorial board of Proceedings of the Estonian Academy of Sciences, Series Biology & Ecology (Chairman Member of Academy Udo Margna). The Board also discussed the payment of membership fees to international science organisations.

DIVISIONS*

DIVISION OF ASTRONOMY AND PHYSICS

The meeting of the Division held on 12 February in Tartu approved the working plan of the Division and restored its historic name, in conformity with international practice "Division of Physics and Astronomy" (11 Members of Academy voted in favour, 1 remained neutral). The General Assembly of the Academy is requested approval of the said decision.

The next meeting was held on 12 June in Tõravere. Under scrutiny was the scientific level of Estonian scientific community. It was acknowledged that the level is low and tends to decline. Many supervisors of doctoral theses and their doctoral students have no publications or patents of international stature and they are not internationally reviewed and indexed. The survey was based on materials on 2300 scientists/faculty members of universities composed of ISI 1975–2001 data files. In respect of assessment of international level, the mee-

* Composed on the basis of materials submitted by Heads of Divisions Endel Lipp-maa, Rein Küttner, Jaak Järv and Arvo Krikmann.

ting discussed the evaluation of Estonian science and the forthcoming organisation of scientific centres of excellence. The meeting expressed their amazement with the fact that the guidelines to evaluation and making applications for establishment of centres of excellence underestimated the results of evaluation. The meeting expressed their contentment with the situation that the work of the scientists of the Division was performed, predominantly on the level *excellent to good*, hence corresponding to the upper quarter of the EU laboratories of the same direction. Discussed was also the participation in international scientific organisations of scientific societies and national committees funded through the Academy, with the conclusion that those lists are one-sided, in particular with respect to physics.

Subjected to scrutiny was the development of Estonian economy, in particular (electrical) energetics, in connection with the open letter of 36 Members of Academy on preparation of privatisation of Narva power plants and Eesti Põlevkivi (Estonian Oil Shale). Under impact of that letter the transfer of assets to NRG was suspended.

The meeting of the Division held on 14 December in Tartu discussed the election of new Members of Academy and decided to support, in the area of biomedicine the candidacy of Mart Ustav and in the area of the humanities the candidacy of Lennart Meri. Both of them enjoy higher ISI quotation rate than other candidates and the greater number of publications internationally reviewed and indexed. Further discussed was the establishment of international centres of excellence. It was again emphasised that international evaluations preceding the making of a choice must be more effective. There was also discussed the question of target funding which has essentially become grant funding, as opined by the Division. Approved were the Guidelines of Allocation of Target Funding, as the base material of further work related to target funding.

DIVISION OF INFORMATICS AND ENGINEERING

General meeting of the Division of Informatics and Engineering convened three times in 2001.

On 8 January and 9 November there were extended meetings together with leadership of Tallinn Technical University. It was ascertained that Technical University and the Division have common interests and that co-operation in the area of engineering and informatics should be widened, to make work ever more efficacious, in particular regarding the implementation of science policy, innovation and postgraduate and doctoral studies.

Jointly with the Technical University, the Division complemented and finalised the basic document of Estonian research and development strategy "Knowledge-based Estonia". That document was considered to be a major step

in establishment of objectives of scientific and development activities and mapping the work. It was found that scientific and development activities and innovation must be handled as integral and balanced parts of a single process, the prerequisite of a knowledge based society, however being the establishment and implementation of an efficacious follow-up educational system. There was made an emphasis on significant role and responsibility of the state for development of legislative environment and coherent mechanisms operating in society. The Division deemed it necessary to increase the funding by state of engineering sciences and innovation, and also to provide special training to experts and officers responsible for mapping the innovation and realisation. When complementing the key areas of research it was emphasised that the state programmes are to be compiled and implemented, for their development.

Basing on report by Member of Academy Hillar Aben, the Division analysed the publishing of scientific articles in the series Engineering, Proceedings of the Estonian Academy of Sciences, which have been issued, since 1995 jointly by Estonian Academy of Sciences and Tallinn Technical University. The journal is released regularly 4 times per year, in English with résumés in Estonian. The journal is pre-reviewed. It is reviewed in 6 international abstract journals and databases. Steps have been made to have the journal included in the list of journals reviewed in the abstract journal *Current Contents*. The articles published in the journal are recognised by Estonian Science Foundation and Council of Science Competence. The popularity of the series Engineering is enhanced by special issues dedicated to narrow topics. Up until now 10 such issues have been released. The scientists in engineering were advised to use the opportunity to publish special issues of the journal, in particular for releasing proceedings of international conferences.

The meeting of the Division held on 26 November considered the internal problems of the Division: the fulfilment of contemplated events, the working plan for the next year. Exchanged were the opinions on candidates for Member of Academy. Because it was not planned to elect Members of Academy in the areas of the Division, the preferences of the Division on candidates were not established.

Division initiated the issuance of the Estonian Academy of Sciences Bernhard Schmidt prize, with the aim to highlight the achievements of young scientists and engineers in development activity and implementation of results of research.

The Division participated in organising on 28 February, together with Tartu University and Tallinn Technical University a seminar on nanotechnology in the series “New trends in science”.

Organised on 24 September 2001 by Division of Informatics and Engineering and the Energy Council of the Academy, together with Baltic Energy Systems

Research Association (BEUA), Estonian Energy Research Institute and Institute of Electric Energy at Tallinn Technical University, was a scientific seminar “Systems research in energetics”.

DIVISION OF BIOLOGY, GEOLOGY AND CHEMISTRY

The problems belonging to the research area of the Division were considered on two sessions of the Council of the Division.

On 12 March, upon initiative of Erast Parmasto the Division considered the implementation of international year of monitoring biological diversity (2001–2002). It was deemed necessary to bring together amateur naturalists, conservationists, biologists and media workers to fulfil the tasks of RBMA in Estonia. To implement those plans, the Board of the Academy decided, upon proposal of the Division, to establish a Estonian Commission of International of Biodiversity Observation Year attached to Estonian Academy of Sciences.

The Division also analysed the work of editorial boards of series Biology & Ecology and Chemistry, Proceedings of the Estonian Academy of Sciences. It was pointed out that the scientific and technical level of the journals has improved significantly, however they are not yet reviewed in the abstract journal *Current Contents* (CC). It was recommended to attain the respective status, yet, while evaluating the works, not to give preference to articles published in second rate non-CC international journals, reviewing the articles published in Proceedings of the Estonian Academy of Sciences. It was considered necessary to involve Tartu University and Estonian Agricultural University in publication of series Biology & Ecology and Chemistry of the Proceedings. The 19 June meeting of the Board of the Academy approved the new editorial board of series Biology & Ecology of the Proceedings. It was considered important to have the natural sciences series of the Proceedings (in the first place the series Chemistry) released in electronic version. The Estonian Academy Publishers were asked to make a respective plan of activities and to consider the possibilities to publish the Proceedings through internationally recognised Internet portals.

Upon initiative of Ain-Elmar Kaasik, the Division deemed it necessary to establish in the Academy an expert group to handle the problems of public health and its protection. The composition of the expert group and plan of activities was considered both in Council of the Division and by the Board of the Academy. The main task of the new Council is the analysis of problems related to population and public health and direction of respective research work.

It was also considered necessary to set up an expert group concerned with natural sciences related school education, however one did not manage to launch it as yet.

The meeting in October of Council of the Division discussed the results of evaluation of natural sciences research. The meeting deemed it expedient to organise a seminar, for wider discussion of the outcome of evaluation.

Meeting of the Council of Division on 15 November formed the Division's opinion on candidates for Member of Academy in the area of biomedicine, at forthcoming election of new Members. The meeting heard out the papers of five candidates (Raivo Uibo, Mart Ustav, Eero Vasar, Toomas Veidebaum and Atko-Meeme Viru). The meeting of the Division found that all candidates speaking at the meeting met the requirements to Member of Academy. However the Division gave its first priority to Mart Ustav.

There were two seminars convened by Head of Division Jaak Järv:

- problem seminar (16 January) "Reform of Estonia's higher education system";
- seminar (4 May) "Digital scientific information and scientific libraries".

Operating as attached to the Division are Nature Protection Commission and Commission of Meteoritics.

NATURE PROTECTION COMMISSION (chaired by Urmas Tartes) organised on 15 May 2001 together with Union of Protection of Heritage Communities, the 40th Day with Papers "Estonian semi-natural communities (heritage communities) and their protection". The Commission held four general meetings. The 15 March general meeting "Motor-cycle sport in natural landscapes" recommended that the organisers of motor cycle races and conservationists establish a better co-operation, to prevent damage to nature by motor cycles. There were two round tables held on this topic. On 26 April, the situation with Estonian forests was considered. On 22 May, under scrutiny was the situation of issuing Estonian natural sciences magazines. There was set the goal to continue publication of "Eesti Loodus" (Estonian Nature). For that aim, there was established the non-profit organisation Loodusajakiri (Natural Science Magazine), releasing four natural science and popular science magazines (Eesti Loodus, Horisont, Loodus and Eesti Mets). Nature Protection Commission is a member of that non-profit organisation, as representative of the Academy. On 10 December, nature tourism related issues were considered. Upon decision of the meeting, a memorandum on national organisation of nature tourism was despatched to Ministry of the Environment.

Released as publication of Nature Protection Commission was collection of articles "Greenery in towns and its protection", presenting the materials of the

37th Day with Papers of Nature Protection Commission and the overviews of 45 years of activity of the Commission.

The Commission had also the responsibility for keeping the Estonian Red Book (supervisors Vilju Lilleleht and Urmas Tartes). Submitted to the Ministry of the Environment has been the plan of making the new Estonian Red Book, up until the year 2005.

Completed was the making of the book on primeval nature of Estonia (supervised by Enn Pirrus). Continued was the work on categorising of geological natural monuments recorded in the book on primeval nature of Estonia (*ca* 2300 titles) and organisation of protection.

COMMISSION OF METEORITICS (chaired by Member of the Academy Anto Raukas) continued research of minerals related to meteorite craters and meteorite explosions. The working group under Väino Puura submitted a hypothesis on creation of particles, heretofore undescribed, by condensation from explosion cloud. On 64th annual meeting of World Meteoritics Union there was a proposal to name them Estolites.

DIVISION OF THE HUMANITIES AND SOCIAL SCIENCES

14 March – organised as a joint event of Literary Museum and Division of the Humanities and Social Sciences was the seminar to commemorate Kristjan Jaak Peterson's 200th anniversary "Kristjan Jaak Peterson and beginning of Estonian national literature".

27–30 June – Tartu University convened 4th Conference on Baltic Studies in Europe: Baltic States and Societies in Transition: Continuity and Change. Chairman of the organising committee of the conference was Peeter Tulviste, who also delivered one of the plenary papers. The member of organising committee Arvo Krikmann headed the work of ethnology and folklore sections of the conference.

21 November – General meeting of the Division decided to give the first preference in the area of the humanities, among candidates for Member of Academy, to Jaan Undusk, the second preference to Lennart Meri. It was decided to accept the letter of resignation of A. Krikmann, to relieve him of the duties of Head of Division from 1 January 2002. Proposed to the position of Head of Division was the candidacy of Peeter Tulviste. He won the unanimous support, by secret ballot.

INTERNATIONAL RELATIONS

In retrospect, the international scientific relations of Estonian Academy of Sciences in 2001 provide convincing evidence that in that particular sphere we have achieved a stable and encouraging level, measuring up to our possibilities. We have been manifestly successful in integration into scientific organisations of the world (ICSU family and others) and of Europe (ESF, ALLEA and others). Our bilateral relations with many partner academies, especially with those in the Baltic States and Nordic countries have witnessed progressively beneficial improvement. A number of stable areas of relationship and communication have taken shape, the substance of which is characterised by the data below, and which have also been highlighted, as concrete cases, in the section Chronicles of the Year Book.

Estonian Academy of Sciences has in recent years (and also in 2001) actively participated in the so-called diplomatic international commerce, which often has had a positive impact on development of scientific ties. A telling example in this respect is inclusion of President of the Academy Jüri Engelbrecht in the delegation of President of Republic on a state visit to Finland and the visits to the Academy of several ambassadors and diplomatic representatives. As a matter of fact the co-operation agreements with the National Academies of Sciences of Ukraine and Belarus were initiated by agency of diplomatic channels.

With respect of relations with international organisations, in 2001 the most dynamic was closer co-operation with European Science Foundation (ESF), in which Estonian Academy of Sciences and Estonian Science Foundation represent the Estonian science. The involvement of our representatives in the organisational work has grown significantly. Take for instance the Academy's presence at Governing Council and General Assembly in the person of Member of Academy Jüri Engelbrecht. Also, the participation of Member of Academy Peeter Saari, Olevi Kull, Dagmar Kutsar, Valter Lang, Urmas Sutrop, Member of Academy Dimitri Kaljo and others in the work of several standing committees and so-called administrative meetings. Plus the activity of Member of Academy Ene Ergma as member of the commission evaluating the work of European Science Foundation, and the general traffic of respective information materials. However, seemingly our contribution to scientific programmes is as yet in the stage of generation of interest and potentials. In some specialities, the limitations are due to scarcity of our scientific resources (for instance, in joining the European Social Survey). More importantly, our handicap is insufficient funding. Still, there is some positive experience of co-operation of our scientists within the framework of concrete ESF programmes. For instance "Nonlinear Acoustic Techniques for Micro-Scale" (Arvi Ravasoo), "Integrated

Approaches for Functional Genomics” (Andres Metspalu and as representative on the Finnish side Member of Academy Mart Saarma), “Response of the Earth System to Impact Processes” (Väino Puura). The research group supervised by Member of Academy Richard Villems participates in EUROCORES programme “The Origin of Man, Language and Languages”.

Vital role in international integration of Estonian science is played by national committees of scientific unions of the International Council for Science (ICSU) and other contact organisations (societies), which are successfully carrying out that work, in keeping with the special area of a given union. The above estimate is supported by annual reports of national committees and societies, which the Academy has introduced, to evaluate the efficacy of expenses on membership fees in ICSU and other organisations. Financial support of Ministry of Education has enabled the contact organisations, for years to pay the membership fees in a centralised manner. The list of respective committees and societies has been presented in Table 1. Ministry of Education also covered the annual fee of European Science Foundation, for both Estonian member organisations.

Estonian Academy of Sciences is an active member of Association All European Academies ALLEA. President of the Academy Jüri Engelbrecht continued as chairman of the ALLEA working group “National Strategies of Research in Smaller European Countries”, which in 2001 reached the stage of drawing conclusions. Vice President of the Academy Ene Ergma has belonged, from the beginning of the reporting year to the ALLEA Standing Committee “Ethics in Science”, and has actively engaged herself in the work of the Committee.

Highlight event in the framework of regional co-operation of the reporting year was the 8th Baltic Conference on Intellectual Co-operation, convened by the Academy on 15 –16 June in Tallinn (cf. p. 38). Concurrently, delegations of Estonian, Latvian and Lithuanian Academies of Sciences had their traditional meeting, where they signed the new additional protocol to inter-academies tripartite co-operation agreement.

There was another conference held in the Academy, initiated by Chairman of Energy Council Member of Academy Mihkel Veiderma, a main organiser of the event on part of the Academy. This was the Baltic-Finnish joint conference “Energetics: from research to innovation” of 1-2 November, held conjointly with Finnish Academies of Technology (in detail cf. p. 39). Mihkel Veiderma also continued as representative of Estonia in co-ordination committee of US-Estonian co-operation project on oil shale research.

A new development was the working meeting on 9-11 October past year of Secretaries General of the Academies of Sciences of the Baltic States, convened by Lithuanian Academy of Sciences in Vilnius (attended by Secretary General Mihkel Veiderma). Mihkel Veiderma had on 25-27 April a meeting

with leadership of Latvian Academy of Sciences, on organisational issues of the work of Academies. Mihkel Veiderma also delivered the greetings by Estonian Academy of Sciences to Latvian Academy of Sciences at latter's General Assembly, dedicated to the 800th anniversary of the city of Riga. The traditional seminars of executives of International Relations Departments, with the aim to share experience, were also continued. That year the meeting, attended by Assistant Secretary General for International Relations Anne Põitel, was held in Vilnius 25-27 September.

Table 1

Contacts in Estonia of international science organisations whose membership fees were covered in 2001 by Estonian Academy of Sciences, on account of project specific allocation of Ministry of Education

Estonian contact organisation	International scientific union
Estonian Physical Society (Chairman: Raivo Jaaniso, jaaniso@fi.tartu.ee)	European Physical Society (EPS)
Estonian Chemical Society (President: Jüri Kann, kann@chemnet.ee)	European Federation of Chemical Engineering (EFCE)
Estonian Mathematical Society (Chairman: Ülo Lumiste, lumiste@math.ut.ee)	European Mathematical Society (EMS)
Estonian National Committee on Astronomy (Chairman: Tõnu Viik, viik@jupiter.aai.ee)	International Astronomical Union (IAU)
Estonian National Committee of Automatic Control (contact person: Olav Aarna, olav.aarna@ebs.ee)	International Federation of Automatic Control (IFAC)
Estonian Geophysical Committee (Chairman: Rein Rõõm, room@aai.ee)	International Union of Geodesy and Geophysics (IUGG)
Estonian National Committee for IGU (Chairman: Jaan-Mati Punning, mati@eco.edu.ee)	International Geographical Union (IGU)
Estonian National Committee for Geology (Chairman: Dimitri Kaljo, kaljo@gi.ee)	International Union of Geological Sciences (IUGS)
Estonian National Commission of Geomorphology (Chairman: Anto Raukas, raukas@gi.ee)	International Association of Geomorphologists (IAG)
Estonian National Committee for Mechanics (Chairman: Jüri Engelbrecht, je@ioc.ee)	International Union of Theoretical and Applied Mechanics (IUTAM)
Estonian Union of Sociologists (Chairman: Mikko Lagerspetz, mikko@ehi.ee)	International Sociological Association (ISA)
Estonian Academy of Sciences (President: Jüri Engelbrecht, je@ioc.ee)	International Council for Science (ICSU)
Estonian Academy of Sciences (Vice President: Peeter Tulviste, ysirk@haldjas.folklore.ee)	Union Académique Internationale (UAI)

The bulk of Estonian Academy of Sciences international relations is regulated by bilateral agreements. At this moment, there are 22 such agreements in effect, including the new framework agreement with the Spanish Council for Scientific Research (CSIC), soon to be supplemented with an additional concretising protocol. In the past year, the Academy was rendered a visit by Member of Berlin-Brandenburg Academy of Sciences Ferdinand Hucho. He met with Secretary General Mihkel Veiderma. The conversation triggered negotiations aimed at closing a co-operation agreement. We engaged in preparations of making an agreement with Belarus Academy of Sciences; we updated and renovated the existent agreements with Academies of Sweden, Finland and Czech Republic. Although they are just bilateral arrangements, it is heartening to ascertain that the European Academies of Sciences consider them as component parts of a unified system of academic exchange of scientists and regularly hold negotiations of executives responsible for that work. The last such event, the so-called partners' meeting in the framework of European Science Exchange Programme (ESEP) was held in late autumn 2001 in Prague (participating was Anne Pöitel).

The main outcome of co-operation agreements made between the Academy and its partner institutions is exchange of scientists. The expenses on reception of visiting scientists coming to Estonia are reimbursed from the Estonian Academic Foundation for International Exchange established in 1993, for which purpose the Academy has earmarked funds in its budget. The means of the Foundation are in escrow in a special account; their distribution is under a vigilant control. They are not disbursed to reimburse the expenses related to outgoing trips of Estonian scientists (their accommodation abroad is covered by the respective partner academy). As an exception, during three years (1999-2001) it was possible, thanks to a project specific funding by Ministry of Education, to pay the travelling costs of young scientists despatched abroad under co-operation agreements, however those funds have been depleted, by now.

Exchange of scientists is regulated by an instruction approved by Board of the Academy and monitored by Council of Estonian Academic Foundation for International Exchange, which is drawing no remuneration. Board of the Academy is vested with power to approve the composition of the Council. Council members are representatives of larger public universities and divisions of the Academy. Responsible for its work has been, since its inception, Foreign Secretary, Member of Academy Dimitri Kaljo, who is also representing the Division of Biology, Geology and Chemistry. As of January 2002, the following persons sit on Council as members – Hele Everaus (Tartu University), Member of Academy Rein Küttner (Division of Informatics and Engineering), Member of Academy Georg Liidja (Division of Astronomy and Physics), Peeter Normak (Tallinn Pedagogical University), Peep Sürje (Tallinn Technical University), Member of Academy Peeter Tulviste (Division of the Humanities and Social Sciences), Aret Vooremäe (Estonian Agricultural University).

Council of Foundation for International Exchange considers the applications for trips abroad and passes decisions regarding the distribution of quotas of scientific exchange, specified in agreements. It also handles organisational matters. It hears out the report of Chairman, on annual meeting, about the work done by Foundation. The practical issues are handled through the agency of Department of International Relations. In the whole, the activity of Council of Estonian Academic Foundation for International Exchange has been successful and the Academy appreciates the contribution by members of Council.

Table 2 provides a numerical overview of exchange of scientists performed under bilateral agreements. Viewing those figures against the background of the years precedent, it becomes evident that by volumes, the activity of Estonian Academic Foundation for International Exchange in 2001 was on the average level of the past five years. For instance the volume of incoming trips was 776 days, i.e. 96% of the average of the preceding 5 years. The volume of outgoing trips however has been on a steady increase. In 2001 it constituted 1715 days or 123% of the average for previous 5 years. Of research areas, represented in scientific exchanges on a more or less comparative level are the humanities (28.1%), life sciences (21.4%), social sciences (21.0%) and exact sciences (18.9%); at a lesser percentage (7.6%) engineering; medical and agricultural scientists have during several years made surprisingly little recourse to academic scientific exchanges. In view of the integration process of scientific institutions with universities, it is natural that the majority of those involved in scientific exchanges (both journeying abroad and receiving the visiting scientists) are related to public universities (73.2% of the volume of exchanges, including Tartu University – 29.5%, Tallinn Pedagogical University – 17.5%, Tallinn Technical University 15.9%, Estonian Agricultural University – 9.2%, Estonian Academy of Arts and Estonian Academy of Music – total 1.1%). The balance is accounted for by national or other scientific institutions.

In 2001, the Board of Academy considered it expedient to specify the contingent of those scientists eligible to seek a quota in scientific exchanges, stipulated in academic co-operation agreements. Henceforward, that opportunity will be presented to scientists, in the first place, whose qualification meets the requirements of partner academy and who work in a university or a scientific institution and perform research topics, which are evaluated subject to Scientific and Development Activities Law and are project-specific funded.

The list of countries of most intensive communications was rather traditional – when adding together the number of outbound days and inbound days, Finland takes the first place, to be followed by Hungary, Great Britain and Sweden. Of most recent partners, a special mention must be made of buoyant development of scientific exchanges with the Russian Academy of Sciences. Among visitors to Estonia the scientists of Hungary, Finland, Poland and Russia prevail. Because the exchange tends to favour the outbound trips, the Council of Esto-

nian Academic Foundation for International Exchange will, when distributing quotas of outbound trips, prefer the executors of joint projects, and take into consideration, with repeat applications, the outcome of the previous trips.

Table 2

Exchange of scientists effected in 2001 under co-operation agreements of the Estonian Academy of Sciences, through Estonian Academic Foundation for International Exchange

Foreign partner	Annual quota (number of days)	Trips to Estonia		Trips abroad	
		Number of trips	Number of days	Number of trips	Number of days
Austrian Ac.Sci.	56	-	-	5	56
British Academy	90	-	-	4	141
Bulgarian Ac.Sci.	50	3	52	1	8
Chinese Ac.Sci.		-	-	-	-
Israel Ac.Sci.	28	-	-	-	-
Lithuanian Ac.Sci.	75	8	26	8	27
Royal Society of London		1	7	3	63
Latvian Ac.Sci.	75	15	45	13	63
Norwegian Ac.Sci.	84	2	12	5	60
Polish Ac.Sci.	100	6	62	9	81
French Ac.Sci.		2	10	2	12
Royal Swedish Ac.Lett.Hist.&Ant.	28	-	-	5	31
Royal Swedish Ac.Sci.	112	5	57	10	114
Slovak Ac.Sci.	35	1	15	3	27
Slovenian Ac.Sci.		-	-	-	-
Academy of Finland	600	27	178	106	690
Swiss Ac.Sci.	60	2	13	2	35
Czech Ac.Sci.	50	5	48	6	55
National Ac.Sci. of Ukraine	50		-	2	9
Hungarian Ac.Sci.	315	16	193	16	180
Russian Ac.Sci.	50	6	58	7	63
	TOTAL:	99	776	207	1715

Scientific relations of the Estonian Academy of Sciences are an integral part of very extensive and multi-layered international commerce of Estonia. Their main role is to represent the Estonian science, to cause it to be seen in the world, through international and regional organisation, and to enlarge, through contacts established, the opportunities of our scientists for constructive engagement with counterparts in various countries.

PUBLIC ACADEMIC LECTURES

In 2001, there were four more discourses given to an audience in the series “Public academic lectures of the Estonian Academy of Sciences, initiated in 1996:

21 February

Foreign Member of Academy *Antero Jahkola*
“Strategy of prevention of climatic change
in Finland”



25 April

Member of Academy *Erast Parmasto*
“Current abundance of species in living nature –
how are we to bring that information into order?”



26 September

Member of Academy *Georg Liidja*
“Men in the fields of radiation”

21 November
Member of Academy
Haldur Õim and
Member of Academy
Arvo Krikmann
“Problems of contemporary
cognitistics”



Altogether, 22 Members of Academy have delivered papers in that series.

CONFERENCES

In 2001, the Estonian Academy of Sciences held three conferences.

15–16 June – 8TH BALTIC CONFERENCE ON INTELLECTUAL CO-OPERATION* promoted by President of the Republic Lennart Meri, who sent a message to participants of the conference. The conference was opened by President of the Academy Jüri Engelbrecht, Ambassador of the Republic of Latvia in Estonia Gints Jegermanis and Ambassador of the Republic of Lithuania in Estonia Rimanas Juozapas Tonkunas. Holding of the Conference was supported by Ministry of Foreign Affairs of Estonia.

The Conference proceeded in three sessions:

THE MESSAGE OF THE BALTIC STATES TO THE WORLD: RAISING THE WORLD AWARENESS OF OUR HISTORICAL EXPERIENCE (Convenor: Member of Academy Peeter Tulviste; speaking were Peeter Tulviste and Toomas Hiio – Estonia, Ohto Manninen – Finland, Evaldas Nekrašas – Lithuania, Aivars Tabuns – Latvia),

RESEARCH STRATEGIES IN SMALL COUNTRIES (Convenor: Member of Academy Jüri Engelbrecht; presented papers by Jüri Engelbrecht – Estonia, Matti Saarnisto and Arto Mustajoki – Finland, Janis Stradinš and Juris Ekmanis – Latvia, Eduardas Vilkas and Algis Petras Piskarskas – Lithuania) and

THE HUMANITIES DURING THE PAST DECADE (Convenor: Member of Academy Arvo Krikmann; speaking were Almantas Samalavičius – Lithuania, Jaan Undusk – Estonia, Peteris Bankovskis – Latvia).

Over 80 Estonian, Latvian, Lithuanian, Finnish and Swedish intellectuals scrutinised in their papers and at discussions the topical issues of development of their respective countries, social life and science. Professor of Political Science of Tartu University Rein Taagepera delivered a key presentation “The need for Baltic emotions”.

The Conference adopted a resolution (cf. Appendix).

* Tradition of Baltic conferences on intellectual co-operation extends back to the pre WWII period. In 1935-1940 there were six such conferences held, with Nordic countries involved. The first conference took place in 1935 in Kaunas, thereafter in 1936 - Tartu, in 1937 - Helsinki, in 1938 - Riga and in 1939 again in Kaunas. The last pre-war conference was called in Tallinn in 15-17 June 1940, in conjunction with the “Baltic Week”, however the deliberations were interrupted by USSR aggression against the Baltic States. With the aim to give new life to the pre-war tradition, there was held the seventh Baltic conference on intellectual co-operation in Riga, in 1999 convened by Latvian Academy of Sciences.

5 October - the Estonian Academy of Sciences jointly with the Estonian Science Foundation, Science Competence Council and Estonian Union of Scientists held a conference “ESTONIAN SCIENCE REFORM – ADVANTAGES AND DRAWBACKS”, with the aim to analyse the outcome of science reform Estonia had witnessed for the past decade.

On the agenda were, in the first place the issues related to former institutes of Estonian Academy of Sciences:

- former institutes of the Academy as university research institutions and
- former institutes of the Academy as state research institutions.

Over 150 participants at the Conference heard out papers (Jüri Engelbrecht, Peep Sürje and Rein Küttner; Peeter Saari; Dimitri Kaljo, Jüri Kann and Anto Raukas; Raivo Vetik; Urmas Tartes, Priit Raudkivi) and attended the panel discussion moderated by Member of Academy Ene Ergma. The summary of the Conference, embracing both the positive aspects of the reform and the problems outstanding and calling for solution in the nearest future, have been despatched to Ministry of Education, Science and Development Council, Science Competence Council and other pertinent and science-associated institutions. Proceedings of the Conference has been published in the “blue book” series of the Academy.

1–2 November – joint scientific conference “Energetics: from research to innovation” convened by Estonian Academy of Sciences and Finish Academies of Technology.

The papers at the Conference embraced a wide scope of issues:

- worldwide outlook for energy production and environmental protection (Jorma Routti, Antero Jahkola, Jari Romanainen – Finland; Klaus Hein – Federative Republic of Germany);
- energy development and policy in the Baltic countries (Jurgis Vilemas – Lithuania; Juris Ekmanis, Gaidis Klavs – Latvia; Arvi Hamburg, Lembit Krumm, Mati Valdma – Estonia);
- trends of R&D and innovation in energetics (Ricardas Šležas, Antanas Pedišius – Lithuania; Mikko Hupa, Jouni Hämäläinen, Pertti Kinnunen – Finland; Arvo Ots – Estonia).

Member of Academy Mihkel Veiderma spoke about the activity of the Estonian-Finnish energetics working group in the past decade. Proceedings of the Conference are ready for publishing (by Academies of Technology of Finland).

SEMINARS

In 2001, Estonian Academy of Sciences continued holding seminars of three series, by now already traditional: “FROM SCIENCE TO SOCIETY”, “NEW TRENDS IN SCIENCE” and TOPICAL SEMINARS.

In the series “FROM SCIENCE TO SOCIETY” there were two seminars.

23 March – the seminar “Marine research and its applications”, moderated by senior researcher Jüri Elken (Estonian Marine Institute), with papers from:

Tarmo Soomere, Estonian Marine Institute

Hydrodynamic patterns in the Baltic Sea;

Jüri Kask, Estonian Geological Survey

Applied trends of marine geology;

Uno Liiv, Consultation office “Corson LLC”

Waves and transportation of sediments in harbours and coastline;

Rein Tamsalu, Estonian Marine Institute

Modelling of marine systems;

Jüri Elken, Estonian Marine Institute

Information technology dimension in marine research.

The seminar was concluded with a discussion.

Proceedings of the seminar were published as a booklet.

26 October – the seminar “Climatic changes and forecast of its impact” (moderator Professor Jaan-Mati Punning, Institute of Ecology at Tallinn Pedagogical University). Delivered were the following papers:

Jaan-Mati Punning, Institute of Ecology at Tallinn Pedagogical University

Greenhouse gases and their balance in Estonia;

Jaak Jaagus, Institute of Geography of Tartu University,

Impending climatic change in Estonia and its impact on water balance in rivers;

Are Kont, Institute of Ecology at Tallinn Pedagogical University

Consequences of climatic change for Estonia’s coastal areas;

Raimo Kõlli, Institute of Soil Science and Agrochemistry of Estonian Agricultural University

Impact of climatic changes on Estonia’s soil cover and agriculture;

Artur Nilson, Institute of Forestry Management of Estonian Agricultural University

The altering forestry against the background of climatic changes;

Olev Liik, Faculty of Power Engineering of Tallinn Technical University

Options to alleviate greenhouse effect in energetics.

The papers were followed by a panel discussion.

Proceedings of the seminar were published as a booklet.

Booklets containing proceedings of the seminars were distributed among institutions and individuals concerned with the problems considered.

In the framework of the series “NEW TRENDS IN SCIENCE”, there was the seminar “Nanotechnology” on 28 February (co-moderators Tartu University, Tallinn Technical University and EU Centre of Excellence of Institute of Physics, Tartu University). Speaking were:

Lars Montelius, Lund University, Sweden

Trends in nanotechnology;

Endel Lippmaa, Institute of Chemical and Biological Physics

Quantum- and nanotechnology;

Jaana Aarik, Technology Centre at Tartu University

Arnold Rosental, Institute of Physics at Tartu University

Atomic plane precipitation as a method to synthesise nanostructural materials;

Ants Lõhmus ja Vaino Sammelselg, Institute of Physics at Tartu University

Scope of autofocus assisted microscope and some advice to develop nanoworld apparatus;

Raivo Jaaniso, Institute of Physics at Tartu University

Optic materials in nanotechnology;

Enn Mellikov, Institute of Materials Technology of Tallinn Technical University

Pulverised and thin film materials for solar energetics.

Seminar was concluded by summary from Kristjan Haller, Director of Institute of Physics at Tartu University.

4 May – TOPICAL SEMINAR “Digital scientific information and scientific libraries”. Jüri Engelbrecht, President of Estonian Academy of Sciences opened the seminar.

Papers were delivered by

Ülle Rebo, Estonian Academic Library

Kristina Pihlau, Estonian National Library

Marika Meltsas, Library of Tartu University

Short overview of the existence and availability of digital scientific information in Estonian libraries;

Elmo Puidet, PW Partners

Scientific librarianship in Estonia. Visions for the future;

Esko Häkli, Library of Helsinki University, Finland

The concept of national digital library: A new paradigm?

Asko Tamme, ELNET

Possible scenarios of the development in Estonia of digital scientific librarianship.

The seminar was concluded with a discussion, chaired by Member of Academy *Jaak Järv*.

COUNCILS

ENERGY COUNCIL

Energy Council of the Estonian Academy of Sciences (Chairman Member of Academy Mihkel Veiderma) carried on with several energy-related problems topical for Estonia: the Council formulated its opinions, presented its views to the Government and the public. There was steady international co-operation going on.

The meeting of Energy Council held on 25 May focused on issues of privatisation of Narva Power Plants. Endel Lippmaa gave an overview of the course of the said privatisation. He highlighted the drawbacks and dangers of the uncompleted privatisation agreement.

As a result of the discussion the Council made the following observation of events. On 26 June 2000 the Academy's Energy Council, basing on information contained in reports Minister of Economic Affairs Mihkel Pärnoja and Raivo Vare, authorised by Government of the Republic to hold the negotiations, and in view of the ensuing deliberations decided not to support the selling to NRG Energy of 49% shares in AS Narva Elektriijaamad. The said decision by Academy's Energy Council was forwarded to Government of the Republic and Ministry of Economic Affairs. On 27 June 2000 Government of the Republic approved the conditions precedent of respective agreements, while the Academy's Energy Council had not been apprised of the developments in respect of conditions of the agreement. The information received at the above meeting suggested that the agreements being prepared contain the clauses, which are damaging to the state and run counter to principles of free energy market. Therefore Academy's Energy Council declared that it is AGAINST acquisition by NRG Energy of 49% shares in AS Narva Elektriijaamad and transfer of 51% shares in AS Eesti Põlevkivi to the commercial organisation being established, under conditions expounded.

Estonian Academy of Sciences Energy Council decided:

to refer to Government of the Republic with a proposal to reconsider the agreements being prepared with a view to privatise AS Narva Elektriijaamad and AS Eesti Põlevkivi, in order to remove the conditions damaging to the state and ignoring the principles of free energy market, and to disclose the conditions of privatisation of the energy complex.

President of the Academy delivered the decision of Academy's Energy Council to the Prime Minister on 14 July 2001. On that same day, the press released Letter of 36 Members of Academy about Estonian electricity. Members of Academy assumed the position supportive of Energy Council.

On 21 August 2001 Chairman of Academy's Energy Council Mihkel Veiderma and its member Endel Lippmaa spoke at a session of the Government of the Republic, presenting convincing standpoints, however there was no meaningful discussion on that day, with participation of cabinet members.

In order to get more detailed information on NRG agreement, including the price formation of electrical energy, Chairman of Academy's Energy Council appealed, on 5 September 2001 to speaker of Riigikogu Toomas Savi. He requested that members of Energy Council be provided an opportunity to look at the text of the agreement. The appeal of the Energy Council was routed for consideration to lower levels of power corridors, to end up in the files of the management of Eesti Energia, with no answer to the Academy.

The synopsis of Academy's energy-related discussions and opinions was forwarded, on 28 November 2001 to Chancellery of the President of the Republic. Academy's Energy Council deemed it necessary that the Government of the Republic should compose of a new development plan of energy complex.

The same meeting discussed on the basis of report by Council Member Tiit Kallaste the environmental taxes in energy complex. The Council emphasised the need for differentiated implementation of environmental taxes, on the basis of a respective comprehensive study. The Council also pointed out the need, while restructuring the energy complex, to provide different consumers of oil shale (production of energy, oil and cement) unrestricted access to oil shale resource. The respective decisions of the Council were forwarded to appropriate ministries.

The Council approved the time schedule of holding the Baltic and Finnish Energy Conference (1–2 November 2001) and the preliminary agenda (cf. p. 39). It heard the overview of leading hydrogeologist of Estonian Geological Survey Leonid Savitski about the environmental hazard stemming from closing of the underground mines.

COUNCIL OF POPULATION AND PUBLIC HEALTH

When establishing the Council, two circumstances were held in view:

1. Problems of population and public health in Estonia merit wider attention, including scientific analysis. Not knowing exactly the risk factors of population morbidity, its causes and structure, the measures to keep it under control are hard to implement. Inertia of population processes calls for long term strategies. In Estonia, the problem is compounded with smallness of population, primarily with the rather limited "capacity to buffer" the effects of changes.

2. The development plan of the Academy has formulated the need to involve the scientific community in the Academy's activities, more intensively than evidenced hitherto. Establishment of Council of Population and Public Health will create prerequisites in the given area.

Board of the Academy set up, by its decision of 19 May the following composition of the Council. Professor Toomas Asser (Tartu University, Dean of Medicine Department); Professor Jaanus Harro (Tartu University, Dean of Social Sciences Department); Professor Kalev Katus (Head of Inter-Universities Centre of Demographic Research of Estonia); Professor Raul-Allan Kiivet (Tartu University, Director of Health Institute); Professor Raivo Uibo (Tartu University, Head of Department of Immunology); Professor Eero Vasar (Tartu University, Director of Institute of Physiology); Professor Toomas Veidebaum (Director of Institute of Experimental and Clinical Medicine); Member of Academy Richard Villems; with Member of Academy Ain-Elmar Kaasik nominated Chairman.

By establishing the Council, no attempt was made to set up a new management structure, nor to assume the tasks of existing decision-making bodies (Estonian Council of Medical Science, expert commissions with Estonian Science Foundation, Science Competence Council). Subject to the Statute, approved by Academy's Board, the Council's objective is the following. To analyse the existence and availability of databases, relating to population and public health; to assess the involvement of Estonia in inter-governmental population-related co-operation; to analyse the fulfilment of "Target programme of population health related scientific and development activities for 1999-2009" and other vital issues relevant to the subject area. Council's expert advices will be presented, subject to the need and in keeping with Act on the Estonian Academy of Sciences, to Government of the Republic and appropriate ministries. The current activity of the Council has been aimed at identification of goals. The Council has developed a working contact with Public Health Department of Ministry of Social Affairs.

COUNCIL OF SOCIETIES HAVING ASSOCIATED WITH THE ACADEMY

This Council (Chairman Professor Jaan-Mati Punning) was established by decision of Academy's Board on 20 March, with the aim to co-ordinate the subvention of societies and unions associated with the Academy and their topical undertakings, and to find ways to solve common problems.

On 6 December, the Council held its first meeting, with representatives of the societies providing short summaries of their work and discussing common aspects in activity of the societies, as well as options to organise joint events and disseminate information about their doings. The meeting approved, as a

common event in the next year the series of conferences convened by Mother Tongue Society “The Estonian language as language of science”.

PUBLISHING COUNCIL

The task of the Academy’s Publishing Council is to formulate positions and to present proposals in issues relating to structure of Academy Publishers and its activity, and also regarding journals and non-periodical printed matter issued by the Publishers.

At the meeting of the Publishing Council on 10 December the Director of the Publishers Ülo Niine provided an overview of the activity of the Publishers in 2001 (in detail cf. pp. 76-79).

Chairman of the Publishing Council Member of the Academy Hillar Aben provided an overview of the situation with electronic publication of journals. There are plans to distribute, starting from 2002 the Proceedings and the journal Trames electronically, through the international electronic publishers EBSCO. H. Aben presented the new cover design of the Proceedings and announced that all Estonia’s public law universities have agreed to be co-publishers of the Proceedings, which fact would be made notice of on the inside cover of the journal.

COUNCIL OF FOUNDATION FOR INTERNATIONAL EXCHANGE

The task of the Council of Foundation for International Exchange is to establish the conditions and direct the exchange of scientists (in detail cf. pp. 31-36).

ESTONIAN COMMISSION OF INTERNATIONAL BIODIVERSITY OBSERVATION YEAR

In 2001, there was established, under the aegis of the Academy the Estonian Commission of International Biodiversity Observation Year (IBOY) (Chairman Member of Academy Erast Parmasto). On 4 May, it convened a seminar in Tartu “Estonian Nature Repository”, discussing the state and study of biological diversity in Estonia and how to enhance the nature related education. The conference held in November decided to start comprehensive and in-depth inventory of species and relations between them in Alam-Pedja nature preserve and partly also in Karula National Park. Popular science magazine published, under the logo IBOY scores of pieces of writing presenting the richness in species of Estonian nature and respective events.

BERNHARD SCHMIDT PRIZE

The Bernhard Schmidt prize of the Estonian Academy of Sciences, issued for the first time in 2001 for applications of science and development works, was assigned to the doctoral student of Tartu University



Rünno Lõhmus,

whose work “Universal autofocus assisted microscope for instruction in manufacturing and technology” came to the first place in public competition (Chairman of Assessment Commission Member of Academy Leo Mõtus).

The goal of Bernhard Schmidt* prize of the Estonian Academy of Sciences is to highlight the achievements of young scientists and engineers operative in Estonia in implementing R&D results. The prize is issued once in two years, on the basis of a public competition.

* The outstanding optician and astronomer Bernhard Schmidt was born on 11 April in 1879 in the island of Naissaar. He studied in the local parish school and thereafter worked in Tallinn Rescue Service and Plant “Volta”. While in Tallinn he started stargazing and mailed his observations to international astronomic journals. He consummated his skills when studying in Sweden and Germany, winning wide recognition in precision polishing of lens and mirrors of various size and shape for telescopes of many observatories. He worked out an optical system, for telescopes and projection work, which uses a spherical mirror instead of a parabolic mirror. The resulting spherical aberration is corrected by using a moulded transparent plastic plate in front of the mirror to give a catadioptric system. A breakthrough in the extensive sky surveys was the wide-field optical telescope which uses a combination of spherical mirror, a Schmidt correction plate and a curved reflecting plate at the focus of the mirror to minimise spherical aberration and coma. He invented that telescope in 1930. Schmidt also studied the structure of wind rotors, he prepared precision mirrors for warships, and obtained a patent to an improved periscope. A minor planet has been named after him. The triumph of Schmidt telescopes also continued after his demise in 1935. For a long time, the largest of them was the “Big Schmidt” assembled in 1948 USA in Mount Palomar Observatory, with diameter of 120 cm. An even larger Schmidt telescope has by now been put up in China. In Spain, there are three observatories equipped with Schmidt telescopes, linked into an automatic synchronised system.

ACADEMY RESEARCH GRANTS

In 2001, the Estonian Academy of Sciences assigned 5 grants, by public competition, for completion of monographic research works and popular science books. The Academy received 28 applications for the purpose. The Assessment Commission, comprising Vice President Ene Ergma (Chair), Members of Academy Hillar Aben, Anto Raukas and Haldur Õim considered the applications. On the basis of their proposal, the Board of the Academy assigned research grants to the following scientists (Resolution of the Board of 15 May 2001):

Leiu Heapost (Institute of History) – EEK 20,000 for editing the manuscript of uncompleted monograph of Karin Mark “Origin of Finno-Ugric people, as suggested by anthropological data”. By end 2001 the text, tables and drawings have been fed into computer, the data have been verified and updated;

Hella Kink (Institute of Geology at Tallinn Technical University) – EEK 15,000 for completion and getting ready for publication of the monographic scientific work “Hydrogeoeological research in Estonia – status and perspectives”. The manuscript is ready, the book will come out of print in 2002;

Kalevi Kull (Department of Semiotics of Tartu University) – EEK 15,000 for completion of the monograph “Biosemiotics: Living systems as sign systems”; manuscript of the monograph has been compiled, the work is being edited;

Art Leete (Department of Ethnology of Tartu University) – EEK 15,000 for completion and getting ready for publication of manuscript of the monograph “War of Kazym: Freedom fight of autochthons of Western Siberia in 1930s”. The manuscript has been completed and will be published as a book in 2002;

Ervin Pihu (Institute of Zoology and Botany at Estonian Agricultural University) – EEK 15,000 for completion of popular science book “Estonian freshwater fish”. The manuscript of the book was completed and it appeared in print: Ervin Pihu, Aleksei Turovski “Estonian freshwater fish” (Tallinn, Kalastaja Raamat, 2001, 240 pp).

STUDENT RESEARCH PRIZES

On May 15, 2001 the Board of the Estonian Academy of Sciences called a competition of student research prizes, including one prize from Rein Silberberg fund. By the established deadline, 128 papers were deposited with the Academy, of which 127 were acknowledged as meeting the conditions of competition (among them 40 Master's papers and 77 Bachelor or diploma papers).

The papers were examined by Assessment Commission of the Academy, chaired by Member of Academy Georg Liidja. The Commission decided to award one EEK 5,776 prize from Rein Silberberg fund, five first prizes of EEK 4000 and eleven second prizes of EEK 3000 (all net). As to educational establishments, the prizes distributed as follows. There were 8 prize winners out of 73 competitors affiliated to Tartu University; 6 prize winners out of 17 competitors affiliated to Tallinn Technical University, 1 prize winner out of 4 competitors affiliated to Estonian Agricultural Academy; 1 prize winner from both Karolinska Institute and Chalmers University of Technology.

Student research prize of the Estonian Academy of Sciences (from Rein Silberberg fund) was awarded to:

Alvar Kangur (Tallinn Technical University) Master's thesis "Economic growth models and human capital: theory, empiricism and applications in Estonia" (supervisor Professor Kaie Kerem).

The first prize was awarded to the following student papers:

Olari Ilison (Tallinn Technical University) Master's thesis "Soliton formation in dispersive media with lower and higher order nonlinearity" (in English; supervisor Associate Professor Andrus Salupere);

Reivo Kruus (Tallinn Technical University, thesis completed at Kempten College) Bachelor's thesis "Process control and visualisation over Internet" (in English; supervisor Argo Rosin (TTU) and advisor Professor J. Steinbrunn (Kempten));

Kersti Lust (Tartu University) Master's thesis "Land tenure by peasantry in public domain of Saaremaa (Õsel) in 1841–1919" (supervisor Professor Tiit Rosenberg);

Kai Pata (Tartu University) Master's thesis "The Application of the Collaborative Virtual Workplace (CVW) in Developing Students' Environmental Decision-Making Skills" (in English; supervisor Professor Tago Sarapuu);

Endla Reintam (Estonian Agricultural Academy) Master's thesis "Weeds in cultural ecosystem, as determined by soils and the treading of the soil" (supervisors Professor Loit Reintam and Associate Professor Jaan Kuht).

The second prize was awarded to the following student papers:

Dag Ainsoo (Tallinn Technical University) Bachelor's thesis "Compliance of Estonian budgeting procedure with the performance-based budget" (supervisor Professor Sulev Mäeltseems);

Anna Goi (Tallinn Technical University) Master's thesis "Improved oxidation for elimination of nitrophenols from aqueous solution" (in English; supervisor Senior Researcher Marina Trapido);

Artur Jõgi (Tartu University) Master's thesis "Synthesis and reactions of enyne compounds in MEDA/EDA super basicity media" (supervisor Associate Professor Uno Mäeorg);

Valeri Koort (Tartu University) Bachelor's thesis "Simulation and tree methods in price calculation of European options" (supervisor Senior Researcher Raul Kangro);

Silja Kuusk (Tartu University) Master's thesis "Mitochondrial helix Hmi1 of the yeast *saccharomyces cerevisiae*" (supervisor Associate Professor Juhan Sedman);

Annela Laaneits (Tartu University) Bachelor's thesis "Rural life and country dwellers as presented in Estonian dailies in 1997 and 2000" (supervisor Professor Peeter Vihalemm);

Madis Laaniste (Chalmers University of Technology) Licentiate's thesis "Laboratory Ventilation Systems: An Analysis of the Function and Flow Stability of Different Ductwork Design Alternatives" (in English; supervisors Professor Enno Abel and Professor Mats Persson);

Liisa Liivik (Tallinn Technical University) Master's thesis "Computer aided calculations in electrical engineering" (supervisor Lecturer Raik Jansikene);

Liina Paaes (Tartu University) Master's thesis "Outlines of Estonia's Kurdish tradition against the background of world Kurdish tradition and theory of folklore" (supervisor Associate Professor Tiiu Jaago);

Erki Russow (Tartu University) Master's thesis "Imported ceramics in West Estonia ca 1225–1650" (supervisor Lecturer Ain Mäesalu);

Ülle Voog (Karolinska Institute) Licentiate's thesis "Temporomandibular joint involvement by rheumatoid arthritis with reference to modulation by tumour necrosis factor α and serotonin" (in English; supervisors Professor Edvitar Leibur (Tartu University) and Professor Sigvard Kopp (Karolinska Institute)).

Research prizes together with diplomas were handed over on 4 December, at the conference of winners of competition of student papers. The conference heard the reports by five prize winners, *Kai Pata*, *Olari Ilison*, *Endla Reintam*, *Valeri Koort* ja *Kersti Lust* delivered on topic of their respective competition papers.

PUBLICATIONS OF THE ACADEMY

Published in 2001 were

books:

- “Estonian Academy of Sciences Year Book VI (33)” in Estonian and English;
- the fifth book in the series “National Science Prizes”, providing an overview of the award-winning research papers of 2001;
- “Estonian science reform – advantages and disadvantages”, the fifth in the “blue book” series, containing the proceedings of a conference held 5 October 2001;
- Directory of Estonian Academy of Sciences.

brochures:

- “National strategies of research in smaller European countries” – articles on science policy of various European countries, within the framework of a working group of *All European Academies*;
- of the series “FROM SCIENCE TO SOCIETY”
 - “Marine research and its applications” (proceedings of the seminar of 23 March);
 - “Climatic change and forecast of its impact” (proceedings of the seminar of 26 October).

Scientific journals, published by the Academy cf. pp. 76-79.

AWARDS

NATIONAL SCIENCE PRIZES TO THE MEMBERS OF ACADEMY

Awarded by the Ordinance of the Government of the Republic of Estonia no. 115-k 20 of February 2001.

FOR LONG PRODUCTIVE RESEARCH AND DEVELOPMENT WORK



Karl Rebane

“...Scientific work: theoretical physics as applied in optics and physics of solids, more specifically electron states in the disordered solid-state grids; optical covers; secondary irradiation of impurity centres (scattering of light, hot luminescence, luminescence), phonon free lines as an optical analogue of Mössbauer γ -resonance line; permanent nicking of spectra and its applications (filters, optical storage and processing of data, space-time holography, optical modelling of neutron network); spectroscopy of one impurity molecule. Besides the above, he has authored works on philosophical problems of physics: entropy in conservation of environment, discovery of extraterrestrial civilisations, causality and free will in physics ...” (*Membership of the Estonian Academy of Sciences, 1998, p. 105*).

NATIONAL PRIZE FOR GEO- AND BIOSCIENCES

Member of Academy **Dimitri Kaljo** (head of task force) together with Leho Ainsaar, Linda Hints, Tõnu Martma and Jaak Nõlvak for the cycle of research “Results of isotopic research, as explanatory of Estonian Palaeozoic history”

NATIONAL DECORATIONS TO THE MEMBERS OF ACADEMY

Awarded by the Decree of President of the Republic no. 985 of 2 February 2001

Order of Merit Terra Mariana Cross 3rd Class

Foreign Member of Academy **Päiviõ Tommila**

Order of the White Star 2nd Class

Member of Academy **Mart Saarma**

Order of the White Star 3rd Class

Members of Academy **Hillar Aben, Vladimir Hizhnyakov, Juhan Ross** and **Enn Tõugu**

Order of the White Star 4th Class

Members of Academy **Ene Ergma, Agu Laisk, Huno Rätsep, Haldur Õim** and Foreign Members of Academy **Indrek Martinson** and **Els Oksaar**

Order of the White Star 5th Class

Members of Academy **Georg Liidja** and **Ülo Lille**

MEDAL OF THE BALTIC ACADEMIES OF SCIENCES

was awarded to Member of Academy **Mihkel Veiderma**

MEDAL OF THE ESTONIAN ACADEMY OF SCIENCES

In 2001, decorated with the Medal of the Estonian Academy of Sciences for long productive research were

Members of Academy **Ülo Lepik** and **Arvo Ots** and

Head of Museum of Under&Tuglas Literature Centre **August Eelmäe**

LETTER OF THANKS OF THE ACADEMY

In 2001, Letter of Thanks of the Estonian Academy of Sciences for long productive work was conferred to

Treasurer of Museum of Under and Tuglas Literature Centre **Valter Kruut**
Scientific Secretary of Estonian Geographical Society **Laine Merikalju**
collaborators of Estonian Academy Publishers **Kai Adamson** and **Nelli Dvorjadkina**

ANNIVERSARIES

80

Member of Academy

Ülo Lepik

Ülo Lepik was born on 11 July 1921 in Tartu. In 1940 he graduated from H. Treffner Gymnasium and in the autumn of that year enrolled in Tartu University, Division of Mathematics, Department of Mathematics and Natural Sciences. In the wartime, his studies interrupted twice – in 1941-1942 Ülo Lepik was employed as primary school teacher in the parish of Pala, in 1944-1945 he was summoned for military duty in German Army and was thereafter for a period in a POWs camp. He managed to graduate from Tartu University in 1948, now majoring in physics.



Starting from 1947 Ülo Lepik has been on faculty in Tartu University, making it from Assistant to Full Professor. He defended his Candidate's paper in 1952. In 1956–1958 he was enrolled on doctoral programme with Moscow University, in 1959 defending his doctoral thesis. Ülo Lepik was awarded Professorship in 1960. In 1959–1990 he was Head of Department of Theoretical Mechanics of Tartu University. As from 1996 he has been Professor Emeritus at Tartu University. In 1993 Ülo Lepik was elected Member of the Estonian Academy of Sciences.

Ülo Lepik is a scientist of international stature in the theory of ductility and in dynamics and optimising of structures. The topic of his research has embraced the area of calculation of elastic-ductile bars, plates and crusts. He has developed new methods of calculation for both static and dynamic loads. A sizeable slice of his work has also been concerned with optimal designing of structures. Under Ülo Lepik's supervision, one doctoral thesis and 12 candidate's theses have been defended. He has published over 150 scientific papers, co-authored the textbook "Theoretical mechanics" and the monograph "Book of the Chaos".

In 1998, Ülo Lepik was awarded Order of the National Coat of the Arms 4th Class.

Arno Kõörna

Arno Kõörna was born on 2 February 1926 in the county of Tartumaa. In 1947 he graduated from Tartu 1st Secondary School. After graduation in 1955 from Tartu University, Department of History and Linguistics Arno Kõörna worked as assistant of Department of Political Economy of Tartu University, and was engaged in research in the history of economy of Estonia.

In 1961 Arno Kõörna defended his Candidate's thesis on Estonian economy end 19th – beginning 20th centuries. For his research in history of economy he was awarded the 1970 national research prize.

As from 1965, Arno Kõörna's activities have been linked to Estonian Academy of Sciences. In 1965-1973 he held the position of Deputy Director and Director of Institute of Economics of the Academy, pursuing his research in the area of comparative analysis of economical mechanisms. Arno Kõörna laid down a particular branch of industrial economics in Estonia – quality economics. In 1970 he defended his thesis of Doctor in Economics, in 1971 he received the Professorship. In 1972 Arno Kõörna was elected Member of Estonian Academy of Sciences.

In 1980 Arno Kõörna initiated a direction of research in the economics of science, establishing a respective research unit in Institute of Economics. He has delivered papers basing on research in economics of science, in universities and research centres of many countries.

In 1973-1982 Arno Kõörna was Scientific Secretary General of Estonian Academy of Sciences, in 1982-1990 Vice President and in 1990-1994 – President.

Recently, Arno Kõörna has been involved in research of innovation, delivering a course in innovation in several private colleges. In 1996–1997 he was Rector of International College of Social Sciences LEX.

Arno Kõörna has released over 200 scientific and popular science publications.



Viktor Palm

Viktor Palm was born on 17 September 1926 in Tartu. He studied in Tallinn 10th Secondary School (Gymnasium of Nõmme), was evacuated to home front in the rear of the former USSR, served in the reserve regiment of Estonian Corps until 1947, when demobilised because he had enrolled in Tallinn Polytechnic Institute (presently Tallinn Technical University). In 1948 Viktor Palm continued his studies in Leningrad State University, graduating in 1952 from Department of Chemistry.



From 1952 Viktor Palm's life has been linked to Tartu University. He held successively the positions of assistant professor, associate professor and full professor, heading Department of Chemistry. From 1994 Viktor Palm has been Professor Emeritus of Tartu University.

In 1956 Viktor Palm defended his Candidate's thesis and his Doctoral thesis "Quantitative research in area of reactivity of organic compounds" in 1966 in Moscow, in Institute of Elementary Compounds of USSR Academy of Sciences. In 1968 he was awarded Professorship in organic chemistry. In 1978 Viktor Palm was elected Member of Estonian Academy of Sciences.

Problem range of Viktor Palm's research, having won high repute internationally embraces acid catalysis and super-acid environments, quantitative experimental and theoretical study of dependencies arising from structure of reactivity of chemical compounds and other characteristics and solvents, and also chemical informatics, computer chemistry and statistic data processing. He has also considered the issues related to methodology of science.

Viktor Palm has released over 180 scientific publications, including two monographs and one textbook. Under his supervision, 15 Candidate's theses have been defended. In 1964 Viktor Palm established a new scientific periodical "Reactivity of organic compounds". As from 1978, there has been the version in English of the journal titled "Reactivity of Organic Compounds".

In 1997 Viktor Palm was awarded the national prize for long productive research.

Karl Rebane

Karl Rebane was born on 11 April 1926 in Pärnu. In 1947 he graduated from Tallinn 2nd Secondary School (*Realschule*) and in 1952 Leningrad State University, where he defended, in 1955 the thesis of Candidate in Physics. In 1965 Karl Rebane defended the thesis of Doctor in Physics and Mathematics. In 1968 he was awarded Professorship in theoretical and mathematical physics and physics of solids. In 1961 Karl Rebane was elected Member of Estonian Academy of Sciences, in 1976 Corresponding Member of Russian Academy of Sciences) and in 1987 Member of Academy, also Member of European Arts and Sciences Academy and Member of European Academy (London).



In 1958-1968 Karl Rebane was on faculty of Tartu University, teaching theoretical physics, organising and heading Department of Experimental Physics. In 1976-1993 he organised, together with Institute of Physics a joint department of laser optics, heading it; from 1994 – Professor Emeritus of Tartu University. He has been linked to Estonian Academy of Sciences from 1956: 1956-1964 – senior researcher and Deputy Director for Research of Institute of Physics and Astronomy, 1964-1968 – Academician Secretary of Division of Physics, Mathematics and Engineering, in 1968-1973 Vice President, and in 1973-1990 President. In 1973-1976 Karl Rebane was Director of Institute of Physics, in 1990-1992 Head of Laboratory and Chief Researcher, in 1993-1996 Chief Researcher of Estonian Biocentre.

The main avenues of scientific work of Karl Rebane are: theoretical physics as applied in optics and physics of solids; optical covers; secondary irradiation of impurity centres, phonon free lines as an optical analogue of Mössbauer γ -resonance line; permanent nicking of spectra and its applications; spectroscopy of one impurity molecule. He has authored about 300 titles of scientific works. With Members of Academy V. Hizhnyakov and P. Saari he is author of a discovery registered in the USSR (hot luminescence). In 1965 Karl Rebane received, as member of a team, the national prize for theory of spectra of impurity centres of solids. In 1981 he received a P.N. Lebedev Gold Medal of the USSR Academy of Sciences. In 1996 he received, as member of a team the national science prize for spectroscopy of one impurity centre. In 2001 he was awarded the national science prize for long productive work.

Ülo Lille

Ülo Lille was born on 16 September 1931 in the county of Pärnumaa, to a farmer family. In 1950 he graduated from Rapla Secondary School and in 1955 Tallinn Polytechnical Institute (now Tallinn Technical University), Department of Chemistry and Mining. He thereafter worked two years as foreman and technologist in Kiviõli Oil Shale Chemistry Combine. In 1957-1959 was en-rolled on postgraduate programme of Tallinn Polytechnical Institute and then got position as senior researcher in the newly established Oil Shale Institute in Kohtla-Järve.



In 1960 Ülo Lille defended his Candidate's thesis on pyrolysis of oil shale. He pioneered the application of spectral methods in research of composition and genesis of oil shale. In 1973 Ülo Lille defended his Doctor in Chemistry thesis on alkylresorcinols. From 1975 he has been working for Institute of Chemistry of Estonian Academy of Sciences (currently at Tallinn Technical University), first as Head of Laboratory, thereafter Head of Department and Senior Researcher, which position he still holds.

Under Ülo Lille's supervision, chemistry of bioactive substances – prostaglandins was actively practised. Due to topicality of the said research object, there was extensive co-operation with many medical research centres in Estonia and the former USSR. The Institute's pilot plant launched production of prostaglandins by both biochemical and chemical synthesis. In 1983 Ülo Lille was elected Member of Estonian Academy of Sciences. For his works on chemistry, technology and applications of prostaglandins he was awarded a national science prize in 1987.

In those years, Institute of Chemistry witnessed the formation of a core of young candidates of science, promoting organic fine synthesis. Under Ülo Lille's supervision, 11 Candidate's theses were defended.

From 1992 Ülo Lille has also held the post of Professor in Organic Chemistry at Tallinn Technical University (since 1997 Professor Emeritus).

Jointly with colleagues, Ülo Lille has been author of over 100 articles in internationally reviewed and indexed scientific journals.

In 2001 Ülo Lille was awarded Order of the White Star 5th Class.

Arvo Ots

Arvo Ots was born on 26 June 1931 in Pärnu. In 1950 he graduated from Tallinn 2nd Secondary School and in 1955 Tallinn Polytechnical Institute, Department of Mechanics, majoring in heat engineering. Thereafter he worked, until 1960, as junior researcher at Energy Research Institute of Estonian Academy of Sciences. In that period, he also took the postgraduate programme, completed by defending in 1958 of the Candidates' thesis "Burning of pulverised oil shale".



From 1960 until now, Arvo Ots' research and curricular activity has been linked to Tallinn Technical University – Associate Professor of Department of Heat Engineering, Director and Professor of Department of Heat Engineering and Institute of Heat Engineering. In 1968 Arvo Ots defended his Doctoral thesis, in 1969 he was awarded Professorship. In 1966 Arvo Ots was elected Foreign Member of Finnish Academies of Technology, in 1983 Member of Estonian Academy of Sciences. Under his supervision, there have been defended one doctor's thesis and twenty two candidate's works. Arvo Ots has released a textbook on thermodynamics and co-authored a textbook on heat engineering for students in engineering. He has also co-authored a comprehensive handbook on heat engineering.

Arvo Ots' scientific activity has been related to study of boilers of thermal power plants. The main results of his work are as follows. Creation of a theory of polyfractional stable burning of fuels. Explication of impact of thermal boundary layer on transmission of irradiation heat in furnace. Establishment of corrosive-erosive wear of heating surfaces of boilers and status of metal in conditions of flash cooling. As a result of those studies, two scientific monographs and about 270 scientific articles have been published. In 1981 Arvo Ots was awarded the title of Merited Scientist.

In 1970 he together with colleagues was awarded a national science prize for the work "Power engineering associated use of Estonian oil shale" and in 1980 for the work "Corrosive-erosive wear of heating surfaces of boilers".

75 Foreign Member of Academy
Els Oksaar

Els Oksaar was born on 1 October 1926 in Pärnu. In 1944 she graduated from Pärnu 2nd Girls Gymnasium. She majored as Germanist, Anglicist and Slavist at Stockholm University, she studied general linguistics, phonetics and communicational science at Bonn University. In 1950 she graduated from Stockholm University.

In 1958 Els Oksaar took a habilitation programme in Stockholm University, majoring in semantics of German. There, she held the positions of Assistant Professor and Professor Extraordinary of German and German literature, being at the same time Head of Department of Sociology and Political Linguistics. In 1965–1966 she was also visiting Professor of Hamburg University, as from 1967 Professor of General and Comparative Linguistics, a position newly established with Hamburg University, and Head of Research Centre of Multilingualism and Language Contacts, for the first time in existence in Germany. In 1997 Els Oksaar was visiting professor of Canberra University.

Directions of research of Els Oksaar are semantics, sociolinguistics, pedolinguistics, language contacts, multilingualism and intercultural communication, theoretical and practical aspects of linguistics, grammar of German and Swedish, and the Estonian language. She has authored a host of scientific monographs and publicistical articles. Her research effort and performance have brought her fame in the whole world.

In 1998 Els Oksaar was elected Foreign Member of Estonian Academy of Sciences. She is also Foreign Member of Academy of Finland and Academy of Sciences of Norway, Doctor Honoris Causa of Helsinki University, Linköping University and Tartu University. In 2001 Els Oksaar was awarded Order of the White Star 4th Class.



Antero Jahkola

Antero Jahkola was born on 5 February 1931 in Korpilahti, Finland. In 1956 he graduated from Helsinki Technical University, with a degree in power energetics. After that he worked in Imatran Voima OY as engineer and as deputy head of planning department. In 1957–1963 Antero Jahkola was also researcher of laboratory of power plant of Helsinki Technical University and in 1971–1974 Alternate Professor of Energy Economy and Power Plants.



Starting from 1974 he has been, in the same institution, Professor and Head of Laboratory. Since 1995 Antero Jahkola has been Professor Emeritus, however he continues research in the laboratory of energy economy and power plants. He is an outstanding scientist in the area of thermal energetics, in particular in the technology of burning solid fuels. His scientific work is related with burning and gasification of solid fuels and economy of heat schemes of power plants. Antero Jahkola has released over 150 scientific publications.

Since 1970 Antero Jahkola has had close contacts with Tallinn Technical University and Estonian Academy of Sciences. He has repeatedly delivered papers in Tallinn, has participated in joint research, has organised Finnish-Estonian energy related joint seminars and scientific conferences, dedicated to EU energy policy and its application in the Baltic countries. Antero Jahkola has been member of Joint Estonian-Finnish energy working group since its foundation in 1991, being currently the Co-chairman of this group.

In 1993 Antero Jahkola was elected Member of Finnish Academies of Technology and Doctor Honoris Causa of Tallinn Technical University. In 1998 he was elected Foreign Member of Estonian Academy of Sciences.

70 Foreign Member of Academy

Päiviö Tommila

Päiviö Tommila was born on 4 August 1931 in Jyväskylä, Finland. He majored in history in Helsinki University and in 1964 defended there his Doctoral thesis. In 1965-1976 he worked as Professor in History and Head of Department of History, University of Turku. From 1976 Päiviö Tommila's activities again transferred to Helsinki University, where he was Professor of History of Finland, Dean of Department of History and Philology and in 1988-1992 Rector. Presently he is Professor Emeritus of Helsinki University.



Päiviö Tommila has considered several aspects of history of Finland, in his published scientific works. He has been a promoter and supervisor of an all-round study of Finnish village. However, in the first place he is a historian of culture and science, a head of a major project of study of history of Finnish press (1975-1992), editor in chief of the capital work "History of Finnish science".

Starting from the beginning 1970s Päiviö Tommila has co-operated with Estonian historians, mainly with those from Institute of History of the Academy and Tartu University. Initiated by Vilho Niitemaa and Päiviö Tommila, Professors of University of Turku, in 1971 Turku hosted a seminar on history of Baltic area, to be followed by symposia (1971-1988), also attended by Estonian historians. A close co-operation evolved between the scholars studying the history of Estonian and Finnish journalism, developing from personal contacts to organisation of joint seminars. Päiviö Tommila promoted the establishment in Finland of Estonian Foundation (being since 1990 Chairman of Management Council) and in 1992, in Tallinn the establishment of a Training Centre of that Foundation. His activity in development of Finnish-Estonian scientific contacts has been very fruitful and continues to be so.

In 1970 Päiviö Tommila was elected Member of Finnish Academies of Science and Letters and in 1991 Foreign Member of Estonian Academy of Sciences. In 2001 he was awarded with Order of Merit Terra Mariana Cross 3rd Class.

Further anniversaries in 2001:

60th anniversary:

15 December	Member of Academy Leo Mõtus (elected Member of Academy 1993)
16 December	Member of Academy Raimund-Johannes Ubar (1993)

IN MEMORIAM

Member of Academy

Viktor Masing

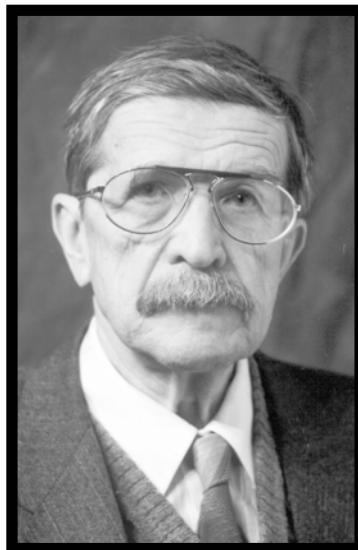
On 18 March 2001, at the age of 76 the outstanding natural scientist, activist of protection of nature, and scholar Viktor Masing departed.

Viktor Masing was born on 11 April 1925 in Tartu. In 1946 he graduated from Tartu 5th Evening Secondary School and in 1951 Tartu University, majoring in biology and zoology. When working, in 1951–1956 at Estonian Agricultural University, Viktor Masing acquired valuable experience in forestry and in research into marshland. There, he completed and defended in 1958 his Candidate's thesis on East Estonian bogs. In 1956 he got employment with Tartu University, working as Assistant Professor, Associate Professor and Full

Professor. His Doctoral thesis, which he defended in 1969, focused on structure of canopy cover. In 1971 Viktor Masing was awarded Professorship, as from 1993 he was Professor Emeritus of Tartu University. In 1993 Viktor Masing was elected Member of Estonian Academy of Sciences.

In science, Viktor Masing trod new paths in biocoenosis, geobotany, landscape science, forest and marshland science, city ecology. He always aspired to understand nature as an integrity, thanks to which he achieved international renown. The legacy of Viktor Masing, deposited both in Estonian and world repository of science, is scores of much quoted works. The total number of his pieces of writing tops 600. "Lexicon of Ecology", compiled by Viktor Masing is much referred to by Estonian scientific community. An important place in Viktor Masing's activity has been presenting science in popular and understandable form. His book "100 commonplace plants" was awarded the prize of the Estonian Academy of Sciences as the best popular science book of 2000.

In 1996, Viktor Masing was awarded Order of the National Coat of the Arms 3rd Class. From 1998, Viktor Masing was Honorary Citizen of Tartu.



11.04.1925–18.03.2001

Member of Academy

Ilmar Öpik

On 29 July 2001, 85 years of age the grand old man of Estonian energetics Member of Academy Ilmar Öpik departed. His activities were inextricably linked to the development of Estonian oil shale energetics and the training of heat power men in Tallinn Technical University.

Ilmar Öpik was born on 17 June 1917 in Tallinn. He acquired secondary education in Tallinn 2nd Secondary School and Gustav Adolf Gymnasium, which he graduated from in 1935. To follow were the Engineering Department of Tartu University and Tallinn Technical University which Ilmar Öpik graduated in 1940 qualifying as engineer-mechanic.



17.06.1917 – 29.07.2001

Ilmar Öpik obtained hands-on training in engineering when working, in his University years in design office of machine building plant “Franz Krull”. He defended his Candidate in Engineering degree in 1953 in Tallinn Technical University and his Doctorate in Engineering in 1963 at Moscow Energetics Institute. His scientific effort was focused on research into specifics of burning oil shale and developing boiler facilities operating on oil shale. He was, for long a leading scientist of energetics in Estonia.

Ilmar Öpik worked in the Department of Heat Energetics of Tallinn Technical University since 1946, for over 45 years, of which ten years as Head of Department.

Ilmar Öpik was elected Member of Estonian Academy of Sciences in 1967. In 1968–1997 he was Academician Secretary of Division of Physics, Mathematics and Engineering, in 1977–1987 – Vice President of the Academy. In 1984–1996 Ilmar Öpik was Editor in Chief of the journal “Oil Shale”, from 1997 – Professor Emeritus of Tallinn Technical University.

In 1992 Ilmar Öpik was elected Foreign Member of Finnish Academy of Technology. In 1996 he was awarded the national science prize for long productive work, and he was also awarded Order of National Coat of the Arms 3rd Class.

MEMBERS OF THE ACADEMY

As of February, 2002

Olav AARNA, born 4.11.1942, elected 1990, informatics. Tallinn Technical University 1965. Rector, Estonian Business School (2000); Lauteri 3, 10114 Tallinn ESTONIA, Tel: +372 665 1300, +372 646 6336, Fax: +372 631 3959, E-mail: olav.aarna@ebs.ee. HOME ADDRESS Nooruse 1-45, 76901 Tabasalu, Harku vald, Harju maakond ESTONIA, Tel: +372 603 2060. Widower, three sons and a daughter.

Jaak AAVIKSOO, born 11.01.1954, elected 1994, exact sciences. University of Tartu 1976. Rector, University of Tartu (1998); Ülikooli 18, 50090 Tartu ESTONIA, Tel: +372 7 375 600, Fax: +372 7 375 640, E-mail: aaviksoo@ut.ee. HOME ADDRESS Tähe 91a-7, 50107 Tartu ESTONIA, Tel: +372 7 349 000. Married, two sons and a daughter.

Hillar ABEN, born 3.12.1929, elected 1977, mechanics. Tallinn Technical University 1953. Head of the Laboratory of Photoelasticity, Institute of Cybernetics at Tallinn Technical University (1987); Akadeemia 21, 12618 Tallinn ESTONIA, Tel: +372 2 620 4180, Fax: +372 620 4151, E-mail: aben@cs.ioc.ee. HOME ADDRESS Hiiu-Maleva 30-2, 11619 Tallinn ESTONIA, Tel: +372 657 2407. Married, two sons.

Pavel BOGOVSKI, born 10.03.1919, elected 1993, oncology. Alma-Ata Medical Institute 1943. HOME ADDRESS Ilmarise 25-6, 11613 Tallinn ESTONIA, Tel: +372 651 4698. Married, three sons.

Mihhail BRONSHTEIN, born 23.01.1923, elected 1975, agricultural economics. St. Petersburg State University 1949. Professor emeritus, University of Tartu (1993). HOME ADDRESS Sõle 47-78, 10321 Tallinn ESTONIA, Tel: +372 56 629 275. Married, a son and a daughter.

Jaan EINASTO, born 23.02.1929, elected 1981, astrophysics. University of Tartu 1952. Head of the Department of Cosmology, Tartu Observatory (1976); 61602 Tõravere, Tartu maakond ESTONIA, Tel: +372 7 410 110, Fax: +372 7 410 205, E-mail: einasto@aai.ee. HOME ADDRESS Observatooriumi 6-3, 61602 Tõravere, Tartu maakond ESTONIA, Tel: +372 7 410 151. Married, a son and two daughters.

Jüri ENGELBRECHT, born 1.08.1939, elected 1990, mechanics. Tallinn Technical University 1962. President, Estonian Academy of Sciences (1994); Kohtu 6, 10130 Tallinn ESTONIA, Tel: +372 644 2129, Fax: +372 645 1805, E-mail: je@ioc.ee. HOME ADDRESS Trummi 34J, 12617 Tallinn ESTONIA, Tel: +372 672 6045. Married, a son and a daughter.

The organisations are used under names they bear today.

Ene ERGMA, born 29.02.1944, elected 1997, exact sciences. Moscow University 1969. Vice-President, Estonian Academy of Sciences (1999); Professor of Astrophysics, University of Tartu (1988); Kohtu 6, 10130 Tallinn ESTONIA, Tel: +372 644 2013, Fax: +372 645 2742, E-mail: ene@physic.ut.ee. HOME ADDRESS Ropka 15A-11, 50111 Tartu ESTONIA, Tel: +372 7 474 911. Single.

Raimund HAGELBERG, born 7.02.1927, elected 1981, economics. Tallinn Technical University 1950. Advisor, Bank of Estonia (1998); Estonia pst 13, 15095 Tallinn ESTONIA, Tel: +372 668 0845, Fax: +372 668 0836, E-mail: raimundh@epbe.ee. HOME ADDRESS Uus-Tatari 16-39, 10134 Tallinn ESTONIA, Tel: +372 646 1253. Widower, a daughter.

Vladimir HIZHNYAKOV, born 25.05.1938, elected 1977, physics. University of Tartu 1960. Professor of Statistical Physics and Quantum Theory, University of Tartu (1992); Ülikooli 18, 50090 Tartu ESTONIA, Tel: +372 7 383 017, Tel/Fax: +372 7 375 570, Fax: +372 7 383 033, E-mail: hizh@fi.tartu.ee. HOME ADDRESS Aardla 154-6, 50415 Tartu ESTONIA, Tel: +372 7 475 290. Married, a son and two daughters.

Ülo JAAKSOO, born 16.04.1939, elected 1986, informatics. Tallinn Technical University 1962. Chief Executive Officer, Cybernetica AS (1997); Akadeemia tee 21, 12618 Tallinn ESTONIA, Tel: +372 639 7991, Fax: +372 639 7992, E-mail: ulo.jaaksoo@cyber.ee. HOME ADDRESS Trummi 30N, 12617 Tallinn ESTONIA, Tel: +372 672 6009. Married.

Jaak JÄRV, born 05.11.1948, elected 1997, natural sciences. University of Tartu 1972. Dean of the Faculty of Physics and Chemistry, University of Tartu (1999); Jakobi 2, 51014 Tartu ESTONIA, Tel: +372 7 375 246, Fax: +372 7 375 247, E-mail: jj@mega.chem.ut.ee. HOME ADDRESS Wiiralti 31-4, 51011 Tartu ESTONIA. Married, a son and two daughters.

Ain-Elmar KAASIK, born 2.08.1934, elected 1993, neurology. University of Tartu 1959. Professor emeritus, University of Tartu (1999). Department of Neurology and Neurosurgery, University of Tartu, L. Puusepa 2, 51014 Tartu ESTONIA, Tel: +372 7 318 507, Fax: +372 7 318 509, E-mail: ain-elmar.kaasik@kliinikum.ee. HOME ADDRESS Ülase 14, 50412 Tartu ESTONIA, Tel: +372 7 425 426. Married, a son.

Dimitri KALJO, born 12.10.1928, elected 1983, geology. University of Tartu 1953. Head of the Department of Palaeozoic Geology, Institute of Geology at Tallinn Technical University (1990); Estonia pst 7, 10143 Tallinn ESTONIA, Tel: +372 645 4653, Fax +372 631 2074, E-mail: kaljo@gi.ee. HOME ADDRESS Raja 7A-6, 12616 Tallinn ESTONIA, Tel: +372 672 6551. Married, a son and a daughter.

Harald KERES, born 15.11.1912, elected 1961, theoretical physics. University of Tartu 1936. HOME ADDRESS L. Koidula 6, 51006 Tartu ESTONIA, Tel: +372 7 422 383. Married, two daughters.

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In 2001, the Estonian Academy Publishers continued at their traditional pace issuing ten scientific journals, pre-reviewed and indexed in international review publications and expert databases. The Publishers' main mission has been to maintain a high standard as regards the contents of journals, their typographic performance, timely release and introduction of electronic version of journals, besides hard copy.

In 2001, the journals were issued in the following volume:

Name	Titular co-publisher	Number of issues per year	Total volume in printed sheet
Proceedings of the Estonian Academy of Sciences		20	91,8
whereof the series			
Biology. Ecology		4	18,5
Physics. Mathematics	Tallinn Technical University	4	15,5
Geology	Tartu University, Tallinn Technical University, Estonian Geological Survey	4	18,0
Chemistry	Tartu University, Tallinn Technical University, Estonian Chemical Society, Estonian Biochemical Society	4	16,0
Engineering	Tallinn Technical University	4	23,8
Oil Shale		4	23,6
Linguistica Uralica		4	20,0
Trames	Tartu University	4	23,8
Acta Historica Tallinnensia	Institute of History	1	9,3
Journal of Estonian Archaeology	Tartu University, Institute of History	2	10,0
Total		35	178,5

In the five series of “Proceedings of the Estonian Academy of Sciences” there were published 104 articles, of which 17 from international authors or with their participation (from 9 countries), 92 articles from Estonian authors or with their participation.

There were five topical issues of journals:

“Biology. Ecology” no. 2 and no. 3: The history of marine and freshwater research (altogether 11 sheet);

“Chemistry” no. 3: Chemical organic synthesis of molecules of pharmaceutical and biological interest (5 sheet);

“Engineering” no. 2: Saaremaa deep harbour (7 sheet + 18 pp coloured drawings);

“Engineering” no. 4: Electronics: circuits, systems, technology (7 sheet).

In the past four years (1998–2001) the authors of five series of the journal came from the following research institutions: Tallinn Technical University 37%, Tartu University 23%, Estonian Agricultural University 8%, Tallinn Pedagogical University 3%, with other Estonian and international research institutions accounting for 29%.

In 2001, the journal “Proceedings of the Estonian Academy of Sciences” celebrated its 50th anniversary with two public events. Firstly, with the exhibition “Proceedings of the Estonian Academy of Sciences 50” in the foyer of Estonian Academic Library from 11 May – 10 June. Secondly, with the presentation of the 50th volume of “Proceedings of the Estonian Academy of Sciences” in the Academy’s premises on 12 December.

The journal “Oil Shale” released 44 pieces of writing, of which 32 scientific articles in English and 1 in Russian, including 2 articles - translations from Russian and 2 articles basing on formerly classified materials, never published before. From international authors (Belarus, China, Mongolia, Hungary, Russia, USA, Jordan, and Turkey) there were 14 articles, i.e. 42% of volume of scientific articles. The journal is indexed by the highly reputed “Current Contents”.

The journal “Linguistica Uralica” published 18 scientific articles, 33 reviews, synopses and various pieces of information, altogether 51 works. The Russian finno-ugric research centres contributed 25 works (from Komi 10, Udmurtia 6, Mari El 6, Mordovia 1, Tomsk 2), Finland contributed 3 works, Italy 2, Hungary 1 and Great Britain 1. Altogether there were five foreign countries presented, contributing the total of 32 works.

The journal of social sciences and the Humanities “Trames” released 26 articles and shorter pieces of writing. Of authors, 22 were from Estonia and 12 from abroad. Of four issues, two were special on a given topic. The first was dedicated to Richard Indreko “On the origin of the Finnic peoples and languages”, compiled by U. Sutrop and focused on European Linguistic Year.

The second was on environmental psychology in Estonia, compiled by M. Heidmets. 72 reviewers, 7 from Estonia and others from abroad wrote reviews on articles in that journal.

The journal “Acta Historica Tallinnensia” published 8 articles, of which 3 in German. The 2001 issue was dedicated to the historian Ea Jansen, to celebrate her 80th anniversary.

In the past five years (1997–2001) the authors of the “Acta Historica Tallinnensia” came from the Institute of History 55%, Tartu University 8%, those from abroad accounting for 24% and from elsewhere for 13%.

In two issues of the “Journal of Estonian Archaeology” there were published 8 articles, of which 1 in English. In the past few years (1997–2001) the authors of works published in the “Journal of Estonian Archaeology” came from Institute of History 42%, Tartu University 28%, those from abroad accounting for 6% and from elsewhere for 24%.

In the reporting year 2001, the Publishers released, or contributed to the releasing of 16 books, all commissioned. Worth of special mention are the following works:

- collection “Mindful of Estonia. Academic Council of the President of the Republic 1994–2001” (compiled by M. Veiderma; 200 pp.);
- monograph “The Baltic Sea islands of Estonia: a periphery in transition” (editors L. Assmuth and A. Kelam; 144 pp.);
- monograph “Autoclave-cured aerated calcium silicate brick” (author K. Eskusson; 168 pp.);
- reminiscences “World and people. Naturalist’s recollections and thoughts” (author H. Tooming; 328 pp.);
- monograph “One and a half centuries of sea and fisheries investigations in Estonia” (authors E. Ojaveer, L. Rannak and T. Laevastu; 128 pp.);
- collection dedicated to commemorate Anu Narusk “Social problems in Estonia, heading for an open society 1990–1999” (compiled by K. Hammer-Pratka and A. Kelam; 128 pp.);
- collection “Green plantations in the city and their protection” (editor H. Tamm; 144 pp.);
- Year Book of Estonian Naturalists’ Society. 80th volume (editorial board T. Möls, J. Haberman and L. Kongo; 312 pp.);
- Proceedings of the Estonian Marine Museum 2. “Submarine as a historical monument” (editor J. Sammet; 142 pp.).

With the aim to present and distribute the scientific journals and books, the Publishers participated in ten book fairs and exhibition-sales in 2001. Here are some of those:

- exhibition-sales at the conference of ceremonial closing of the Year of Estonian Book in Pärnu (5–6 April);
- international Baltic Book Fair in Tallinn (19–21 April);

- international Frankfurt Book Fair (on joint stand of National Publishers' Association) (15–18 October);
- Christmas sales in National Library (11–16 December).

The lists of contents of all ten journals, as well as annotations of articles are available in website of the Publishers <http://www.kirj.ee>. Included selectively are also full texts of articles in pdf-format. Website also carries information about books released and available to buyers.

At the end 1999 the Estonian Academy Publishers made an agreement with international electronic publishers EBSCO PUBLISHING, for releasing electronically the journal *Trames*, to be followed by five series of “Proceedings of the Estonian Academy of Sciences”. The Publishers have met on their part the conditions of that agreement, forwarding to EBSCO the full texts in pdf-format of all six journals and the hard copy of those journals. At the end 2001, however EBSCO presented additional conditions: the articles are now to be delivered in SGML language.

The Publishers are well aware that the modern scientific journal is viable only when available electronically. Scarcity of funds is a serious impediment here.

UNDER&TUGLAS LITERATURE CENTRE OF THE ESTONIAN ACADEMY OF SCIENCES

Established in 1993 (affiliate Museum in Nõmme, the former Friedebert Tuglas Museum, established in 1971)

Personnel: 18, including 14 researchers

Address: Roosikrantsi 6, 10119 Tallinn, ESTONIA

Museum: Väikese Illimari 12, 11623 Tallinn

E-mail: piret@eki.ee, jana@eki.ee

Website: <http://www.utkk.ee>

Director: Jaan Undusk, Tel: + 372 644 3147, Fax: + 372 644 0177, jaan@eki.ee

Scientific Secretary: Piret Kruuspere, Tel: + 372 644 3147, piret@eki.ee

Head of the Museum: August Eelmäe, Tel: + 372 672 2847, tuglas@hot.ee

Under and Tuglas Literature Centre is an institution of research and development of the Estonian Academy of Sciences. Its mission is to study Estonian literary culture (both in historical and theoretical perspective), to analyse Estonian texts within the context of Baltic-German literary space and world literature, and to promote literary and cultural thought in line with contemporary world trends.

Its development activities focus on the publication of source materials for the Estonian national literature and the humanities. The affiliated Museum in Nõmme (Tallinn) maintains the estate of Friedebert Tuglas (1886-1971), the Member of the Academy and a man of letters. The estate comprises over 40,000 items of cultural value and includes his library and art collection, but also the house and appurtenant garden. The latter serve as grounds for lectures and guided tours and offer individuals research facilities.

In 2001, the Literature Centre continued its research into two target-financed topics.

The topic “Models of cultural discourse” (supervised by Jaan Undusk) concentrates on analysing the logical and ideological constructs of large language-usage domains *viz* discourses, operating in culture, and their transformation in the course of history. Objects under observation are literature, theatre, historiography, religious and philosophical texts and fine arts, of mostly the 19-20th century Estonian or Baltic-German origin, encompassing, however, also a wider European context in both space and time. Individual research topics study rhetoric models of language and culture and the discourse of the Baltic-German literary space (Jaan Undusk), theory and history of the concept

topos (Rein Undusk), narrative and fictional discourse (Epp Annus), models of intertextuality (Anneli Mihkelev), theatrical reception of Estonian literature (Piret Kruuspere), reception and audience research (Anneli Saro), history of Estonian exile literature (Janika Kronberg, Chairman of the Tartu Department of Estonian Writers' Union), and reader-response criticism (Jaanus Vaiksoo, Head of the Humanities Department of Rocca al Mare School).

The terms used in research are the concepts familiar from neo-rhetoric and narratologic discourse analysis, theatre and arts semiotics, reader-response criticism or reception theory.

The topic "Semiotic aspect of Estonian literature" (supervised by senior researcher Virve Sarapik) focuses on the study of the aspects of the poetical space of Estonian literature and its animalistics (Maie Kalda, Kadri Tüür), Scandinavian-Estonian literary contacts (Hilve Rebane) and German-Estonian literary contacts (Liina Lukas), the semiotics of art, the interconnection between visual and verbal texts (Virve Sarapik), the processes shaping and affecting literary history (Aare Pilv and Piret Viies, editor of the magazine "Keel ja Kirjandus"); feminist approach (Elo Lindsalu) and early history of Estonian literature (Hilve Rebane, Maie Kalda).

"History of Estonian literary language, culture and science", a sub-programme of the state programme "The Estonian language and national culture", is performed by the affiliate Museum in collaboration with external researchers. The project in hand at present is the edition of Collected Works by F. Tuglas (project leader Ülle Kurs, senior personnel August Eelmäe and Valter Kruut). The series has reached by now to the critical heritage and essays of Tuglas. The goal is to comment the monographic volumes (vol. 12-14) of the 15-volume Collected Works, to edit them textologically and get published the volumes of criticism.

In addition to the above target-financed topics and the research project, the Centre performed four Science Foundation grants: "Oxymoron as a cultural tradition and as an aspect of the Greek *logos*", grantee J. Undusk; "The temporality of narrative and the time of the body", grantee E. Annus; "Sturm und Drang in Livonia. Patterns of riot", grantee L. Lukas; "Textuality and structure of the work of art", grantee V. Sarapik.

The Literature Centre has been constantly harassed by the lean and unstable funding for the upkeep of its affiliated Museum in Nõmme (the former F. Tuglas Museum, built originally by A. Adson and M. Under), and the appurtenant real estate. Presently the related costs have partly been covered at the expense of research budget. The problem was considered at a meeting with the Chairman of the Parliamentary Committee of Cultural Affairs, the Governor of the Borough of Nõmme and representatives of the Ministry of Education and

the Board of the Academy of Sciences on 9 March. It is heartening to note that in 2001, the Municipal Government of the Borough of Nõmme provided a single support to upkeep the lot and the garden. The Centre continues to hold that the collections of the Museum and the dendrologically unique garden are part of the national heritage which must be protected and maintained as accessible to public on account of allocations from the state budget. This can not be effected as dependent on research projects of limited duration. Nor should the expenses on the infrastructure of this unique establishment be pegged to the research budget of the Centre.

The Literature Centre runs two series of publications: “Collegium litterarum” for studies on literary history, and “oxymora”, devoted to dominantly theoretical writings; plus the Collected Works by Friedebert Tuglas.

A highlight event of the year was the publication of the 9th volume of Collected Works by Friedebert Tuglas (Criticism V. Criticism VI, Tallinn 2001, 518 pp.). Extensive commentaries thereto were written by August Eel-mäe (“Criticism” V), Ülle Kurs (“Criticism” V) and Maie Kalda (“Criticism” VI).

In co-operation with the Institute of the Estonian Language, the Centre completed the volume “IAAK. Kristian Jaak Peterson 200” (editorial board: K. Ross, U. Sutrop, J. Undusk, E. Vainik, Ü. Viks. Tallinn: Eesti Keele Sihtasutus 2001, 428 pp.), containing the original texts of two fascicles of poetry and the daybook by K. J. Peterson, facsimiles of his linguistic studies with parallel texts in Estonian, translations of odes into German, the glossary of Peterson’s works in Estonian, and a selective bibliography.

On 19 June 2001 Rein Undusk defended at Tartu University his MA thesis “Topos. The image of place between myth and concept”, published as the fourth book in the series “oxymora” (Tallinn 2001, 180 pp.). It is a monographic research on the historical relationship of the concept of *topos*, as employed by contemporary literary criticism, to the ancient rhetorico-philosophical tradition.

By the 30th anniversary of the Nõmme Museum on 28 September, the epistolary heritage of Elo and Friedebert Tuglas was published: “Letters to each other. 1917-1947” (Tallinn 2001, 767 pp.), edited, with preface and commentaries by August Eelmäe. The book comprises correspondence and photos of Elo and Friedebert Tuglas, covering the time span of 30 years.

In 2001, the researchers of the Literature Centre authored altogether 19 publications in foreign languages and nearly 70 in Estonian, whereof 29 in pre-reviewed issues. Besides, abstracts of 6 papers (of which 4 in foreign languages) were published.

The Centre continued its editorial work on a number of issues: “Estonian exile literature in the 20th century”; “*Eroica Norden*”, a collection of critical essays by H. Rebane on Scandinavian and Finnish writers; monographic “Under the logo of winged steed: Estonian Writers’ Co-operative 1950-1994” by J. Kronberg; “How to tell time” by E. Annus; studies by K. Tüür and A. Pilv.

In 2001, there were a number of research symposia:

8 March – a joint seminar in Tallinn with the Institute of Finland and Theatre Researchers’ Association “Women from the Finnish bridge”, moderator P. Kruuspere; there were 4 papers by both Finnish and Estonian researchers. The Literature Centre was represented by H. Rebane;

20 April – a conference in Tallinn “Signs of adaptation” (with the Department of the Estonian literature of Tartu University), moderator V. Sarapik; there were 12 papers. The Literature Centre was represented by M. Kalda, J. Undusk, V. Sarapik and K. Tüür;

7–9 September – an international symposium in Tartu “Sturm und Drang in Livonia. Patterns of riot – Der Sturm und Drang in Livland: Rebellionsmuster im Leben und in der Dichtung. J. M. R. Lenz 250 – K. J. Peterson 200” (jointly with Estonian Goethe Society), moderators L. Lukas and J. Undusk; there were 26 papers by participants from Germany, England, Switzerland, Japan, Canada and Holland. The Literature Centre was represented by E. Annus, J. Undusk and A. Mihkelev;

19 September – a conference in Tallinn on Estonian exile literature “An erratic exile. Ideas and emotions in Estonian exile literature” (with the Estonian Academic Library), moderator P. Kruuspere; there were 6 papers. The Literature Centre was represented by M. Kalda and J. Kronberg.

P. Kruuspere participated at the panel of conveners of the 4th international conference of the Estonian Association of Comparative Literature “World Drama on the Threshold of the 21st Century” (23.09–25.09.2001), where P. Kruuspere and A. Saro also delivered papers.

From 16 October until 14 November the Estonian Academic Library in Tallinn staged an exhibition ““The white house among pine trees...” – 30 years of busy work” (moderators A. Eelmäe and P. Kruuspere), presenting the history of the Nõmme Museum, known to public as F. Tuglas Museum, and displaying a fraction of its deposits (photos, printed matter, manuscripts, works of art) .

On 30 October the Nõmme Museum hosted the session of the Board of the Academy of Sciences. Having heard out the report by Scientific Secretary P. Kruuspere on the activities of the Literature Centre, the Board decided to approve its work. The Board also acknowledged the long and productive activity of A. Eelmäe, the Head of the Museum, and V. Kruut, its Treasurer.

The Board decided to decorate A. Eelmäe with the Medal of the Academy of Sciences, and award V. Kruut the Letter of Thanks of the Academy.

In 2001 the researchers of the Literature Centre delivered 47 research papers, of which 26 were presented at international symposia; besides those mentioned above, these conferences include “Norwegian Drama and its Interpretation in the Baltic Countries” in Riga; “Engagierte Literatur in den Wendezeiten” in Poland; “Finnougrier und Indoeuropäer: Kontakt der Sprachen, Kontakt der Literaturen” in Holland; the 8th Baltic Conference on Intellectual Co-operation in Tallinn; the 4th conference of the Baltic literary scholars “Modernity and Identity in Contemporary Literature” in Riga; the 15th international congress on aesthetics in Japan; the 2nd symposium of Scandinavian and Baltic States “Culture and Nature” in Tampere; seminar “Krise, Konflikt und Strategie zur Lösung der Konflikte. Moderner Nationalismus und nationale Literaturen in Finnland, Estland, Lettland, Litauen und Polen” in Sweden; and the ICATS international theatre research summer school in Finland.

Researchers took 21 mission trips (including trips to Sweden, Latvia, Finland, Germany, and Japan). J. Undusk sojourned as an exchange-researcher for one month in Hungary and Austria.

Besides R. Undusk, Elo Lindsalu and Janika Kronberg defended their MA theses.

The affiliated Museum in Nõmme conducted 35 lectures and guided tours to 686 people and welcomed 212 individual guests or researchers.

The staff of three of the Museum (August Eelmäe, Ülle Kurs, Valter Kruut) has also the responsibility for the upkeep of stocks, interior premises and the garden of the house.

Collaborators of the Literature Centre have given 18 popular talks over the radio, at presentations of books etc.

The Literature Centre encourages co-operation with universities, and thus 12 of its collaborators lecture at Tartu University, Tallinn Pedagogical University, Estonian Academy of Arts or Estonian Institute for the Humanities. The contacts are close also with the Estonian Academic Library, experts of the Centre sat on several panels and committees.

FINANCIAL ACTIVITY

BUDGET OF THE ESTONIAN ACADEMY OF SCIENCES FOR 2001 AND ADMINISTRATION OF BUDGET

(thou kroon)

	Budget	Implementation
BALANCE BY BEGINNING 2001		1582,6
incl. Allocations from the state budget		536,7
Target allocations		411,6
Earnings		634,3
INCOME		
ALLOCATIONS TO THE ACADEMY OF SCIENCES FROM THE STATE BUDGET	13110,0	13110,0
incl. for main activities of the Academy	4500,0	4500,0
to Estonian Academy Publishers	3200,0	3200,0
to scientific Societies	1100,0	1100,0
fees of Member of Academy	4310,0	4310,0
OTHER RECEIPTS	1935,0	2746,7
Target allocations of Ministry of Education	730,0	921,0
incl. to capital repairs of Academy premises (6 Kohtu St)	660,0	660,0
for membership fees to international science organisations		167,0
for publication of collection "National science prizes 2001"		15,0
to Mother Tongue Society	70,0	79,0
from letting the premises and guest rooms (6 Kohtu St)	300,0	398,2
from sale of printed matter and commis- sioned works (Academy Publishers)	685,0	1059,5
receipts from other institutions for compensa- tion of running costs of premises (6 Kohtu St)	220,0	236,6
allocations for research trips abroad		35,6
assets received from State Chancellery		62,6
bank interest accrued		33,2
ALLOCATIONS TO UNDER&TUGLAS LITERATURE CENTRE	1689,8	1730,4
through Ministry of Education	1271,0	1274,2
incl. target funding of research	815,0	815,0
for infrastructure expenses	266,0	266,0
for fulfilment of state programme	190,0	190,0
for repayment of student loan		3,2
grants of Estonian Science Foundation	183,8	183,8

target allocations	190,0	197,0
earnings	45,0	70,8
bank interest accrued		4,6
TOTAL INCOME	16734,8	17587,1
EXPENDITURES		
GENERAL BREAKDOWN		
Academy Office	5164,0	5684,2
Estonian Academy Publishers	3885,0	3872,8
fees of Member of Academy	4310,0	4155,3
Under&Tuglas Literature Centre	1689,8	1585,1
Scientific societies	1170,0	1179,0
incl. Estonian Naturalists' Society	415,0	415,0
Mother Tongue Society	215,0	224,0
Estonian Geographical Society	125,0	125,0
The Society for Estonian Regional Studies	115,0	115,0
Estonian Union of the Philosophy and History of Science	100,0	100,0
Estonian Learned Society	95,0	95,0
Estonian Literary Society	105,0	105,0
Capital repairs of the Academy premises	660,0	660,0
TOTAL EXPENDITURES	16878,8	17136,4
BALANCE BY END 2001		2033,3
State budgetary means		567,1
Target allocations		669,1
Earnings		797,1
ACADEMY OFFICE		
Salaries	2490,0	2484,5
incl. to full-time staff	1949,0	1934,2
to part-timers	80,0	78,8
bonus to Vice-President, Heads of Divisions, Foreign Secretary	138,0	149,5
fees to Professors-Emeritus	81,0	81,0
benefit to widows of Members of Academy	44,0	40,0
prizes for student papers	70,0	79,4
incl. from R. Silberberg Fund		7,8
research grants	108,0	108,1
B. Schmidt Prize	20,0	13,5
Payroll tax	800,0	796,5
Office expenses	380,0	366,5
Running costs of buildings and premises	430,0	559,9
Purchase and maintenance of devices and inventory	90,0	352,7
Transportation costs	170,0	143,9
Business trips	140,0	177,3
Expenses on General Assemblies, academic lectures and seminars and on corporate hospitality	110,0	134,7

Expenses on committees and Divisions	30,0	9,3
Expenses on Foundation for International Exchange and on travelling of young scientists	450,0	432,8
Repairs of Academy premises	74,0	41,7
Fees to international scientific organisations		174,5
Bank facility		9,9
TOTAL EXPENDITURES	5164,0	5684,2
ESTONIAN ACADEMY PUBLISHERS		
Salaries	1520,0	1581,8
incl. to full-time staff	1455,0	1538,0
to part-timers	65,0	43,8
Payroll tax	501,6	522,0
Management expenses	670,0	509,3
Printing expenses	690,0	454,5
incl. on issues of Board of Academy	100,0	96,1
Purchase of devices and inventory	33,4	39,0
Expenses related to commissioned works	470,0	729,3
Other expenses		36,9
TOTAL EXPENDITURES	3885,0	3872,8
UNDER AND TUGLAS LITERATURE CENTRE		
Salaries	770,0	773,2
incl. to full-time staff	745,0	750,6
to part-timers	25,0	22,6
Payroll tax	254,1	256,6
Management expenses	665,7	326,4
Printing expenses		150,9
Other expenses		78,0
TOTAL EXPENDITURES	1689,8	1585,1

ASSOCIATED INSTITUTIONS

Subject to the Act on the Estonian Academy of Sciences, adopted in Riigikogu in 1997, the research, development and cultural institutions, as well as the scientific societies not belonging to the structure of the Academy, whose activities and goals are compatible with the activities and goals of the Academy, can associate with the latter. Association of the institutions with the Academy is effected under bilateral agreements, specifying the goals of association, the tasks and obligations assumed by both parties.

The Academy has entered into association agreements with Institute of Zoology and Botany at the Estonian Agricultural University, Tartu Observatory, Institute of Ecology at Tallinn Pedagogical University, Estonian Academic Library; Institute of the Estonian Language and Estonian Literary Museum.

The association agreements specify, as one of the forms of co-operation, the reciprocal information exchange. As from 1998, there are synopses of the activities of the associated institutions of the Academy in the Year Book. They differ as to their build-up, manner of presentation and scope. The said materials have been published in the Year Book basically in the form they were delivered by a respective institution. Those few editorial corrections suggested by the editors of the Year Book were taken due notice of.

**INSTITUTE OF ZOOLOGY AND BOTANY
AT ESTONIAN AGRICULTURAL UNIVERSITY**

Associated with the Estonian Academy of
Sciences

27.01.1998

Founded 1947

Personnel: 116, where of 59 researchers

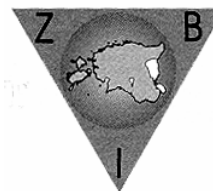
Address: Riia 181, 51014 Tartu, ESTONIA

E-mail: zbi@zbi.ee

Website: <http://www.zbi.ee>

Director: Urmas Tartes, Tel: + 372 7 471 988, Fax: + 372 7 383 013,
tartes@zbi.ee

Scientific Secretary: Märt Rahi, Tel: + 372 7 471 988, mrahi@zbi.ee



As compared to earlier years, there were no significant changes in the stream-line activities of the Institute, which continued in the framework of six target-financed topics, started in 1998, and by support of 16 grants from Estonian Science Foundation. Added were commissioned researches. For the first time, the Institute participated on contractual basis, in the 5th EU frame work programme (programmes “Mantra” and “BioCASE”). The contract with the US Environmental Protection Agency (pollution load research in the rivers of the Baltic States) was continued. So were several traditional projects with the scientists of the Nordic countries.

The research of the lake Peipsi, carried out by hydrobiologists in the recent decade has indicated the diminishing content of total nitrogen, ammonium ion and orthophosphate ion in the water, caused by pollution. However, the benthic communities display adverse reaction (inertia) towards changes coming from outside. It is becoming increasingly clear that diminishing the biogens input from catchment area can not stop eutrophication of the lake Peipsi, it being very difficult to reverse the tide and achieve improvement of the state of the lake. Due to eutrophication, the reed area proliferates, which has a purifying and denitrifying impact on the open lake, however adversely affecting the diversity of species. With reed gaining ground, the spawning and feeding conditions of some fish deteriorate. The fish community of the lake Peipsi, with respect of commercial species, is characterised by diminishing of perch population, and the increase of young individuals in pikeperch population, suggesting the excessive size of catches.

The Institute continued monitoring and research in small lakes of Estonia, with an aim to predict the functioning of ecosystem of the lakes during the whole vegetation period. There was comprehensive hydrochemical research done in the lakes Prossa and Verevi.

The team of biology of rivers was engaged in fieldwork in basin of river Narva and in rivers starting in Pandivere upland. The research in Pandivere revealed that the decreasing non-point pollution due to depression in agriculture in the mid-90s has ended and once again the diffused pollution is increasing.

Botanists carried out cluster analysis of the species composition of Estonian plants in 100 km² mapping squares, making it possible to zone the flora and its species in Estonia. Analysing the relations between soil and plants in mapping squares proved significant positive correlation between the number of species and indicators characterising the diversity of soils and significant negative correlation with indicators characterising the domination of some soil types.

The variation of isoenzyme features was studied on a diploid species *Bromus fasciculatus*, which is of significantly narrower distribution and lower incidence than other species of *Genea* section. Thanks to the species-specific allozymes endemic to diploids, which have combined, in case of polyploids into different fixed heterozygotes, it was possible to identify the progenitors of polyploid species.

In progress was research of clones of fast growing willow. The experts studied the impact on production of various fertilising modes (mineral fertilisers, wastewater, and sludge) and assessed the deleterious effect on environment of pollutants. The experiments provided evidence that the willow bush can help purify sizeable amounts of pollutants.

Entomologists continued experimental research in the system plant-herbivore-parasitoid. The results obtained proved that the so-called indirectly adverse impact may turn out to be equal to directly adverse impact, for the populations. It was found out that the variability in quality of nutrients triggered a violent trophic cascade, affecting fitness of both moth and parasitoids.

Ornithologists compiled a survey on distribution of whooper swan *Cygnus cygnus* during migration and breeding, selection of biotope and status in Estonia in 1990–2000. In co-operation with Estonian Ornithological Society, the Institute assessed the conservation status of some wetland bird species in Estonia (ca 50 species), and elaborated their conservation criteria.

In co-operation with Norwegian ornithologists the Institute continued research of distribution, selection of biotope, feeding biology and reproductive capacity of great snipe *Gallinago media*. Within the framework of international Great Snipe Action Plan (BirdLife International) the management plan of that endangered species in Estonia in 2002–2006 was compiled.

Mycologists carried on with the research of molecular ecology and biosystematics of *Thelephorales*. A monograph was published – a summary of recurrence of *Hymenochaete*-type fungi in North America. Mycologists also did comparative study of families *Dermateaceae* and *Hyaloscyphaceae* systematics and specified the location of several critical taxons in the system. A description

of five fungus genera and 13 species, all new to science was provided. There were obtained data on size of the genome of two duplicate species of *Neottiella*, about its ploidy level and life cycles.

The number of published scientific articles did not change, to any significant degree. Deserving special mention of publications in Estonian, is the omnibus volume “Estonian rivers” (edited by A. Järvekülg, 750 pp.), bringing together results of research in ten years on morphometry of rivers, their hydrology, hydrochemistry and biota. The book effectively complements the monograph on Estonian lakes, released decades ago.

Mycologists released volume 38 of the journal “Folia Cryptogamica Estonica” and hydrobiologists the monograph in English “Peipsi. Meteorology. Hydrology. Hydrochemistry”.

Besides regular instruction in Estonian Agricultural University, the Institute also contributed to the faculty effort of Tartu University, offering 17 lecturing courses and practical work and supervising 29 postgraduates enrolled on MSc program.

Of traditional scientific events, there was the Baer Day (29.02) and annual conference of the Institute (29.03) focusing on structure and dynamics of populations. Limnological Station of Võrtsjärv held an international seminar on rivers' pollution (14-18.05).

TARTU OBSERVATORY

Associated with the Estonian Academy of Sciences
8.05.1998

Founded 1808

Personnel: 67, whereof 37 researchers

Address: 61602 Tõravere, Tartu county, ESTONIA

E-mail: aai@aai.ee

Website: <http://www.aai.ee>

Director: Laurits Leedjärv, Tel: + 372 7 410 265, Fax: + 372 7 410 205,
leed@aai.ee

Scientific Secretary: Mare Ruusalepp, Tel: + 372 7 410 261, mare@aai.ee



Tartu Observatory traditionally concentrated on fundamental studies in astrophysics and atmospheric physics within the framework of four target-financed topics and 15 Estonian Science Foundation grant projects. In addition, there were a few European Union projects and contracts with Estonian organizations.

In 2001, the scientists of the Observatory published 64 articles in scientific journals and conference proceedings (of them 23 CC articles), and 76 popular science articles. In particular, we would like to emphasize publishing of the monograph “Statistics of the Galaxy Distribution” by Chapman & Hall/CRC Press (USA), authored by Enn Saar from Tartu Observatory and Vicent Martínez from Valencia University, Spain. The 78th issue of the Calendar of the Observatory, published continuously since 1924, came out. “Annual Report 2001” (in English) provides a comprehensive overview of Observatory’s research effort, in the present synopsis only a few examples are given.

The topic supervised by Member of Academy Jaan Einasto deals with the whole Universe on different space and time scales. Regular distribution of galaxy clusters, receiving more and more confirmation from the observations, must have its roots in the very early epoch of the Universe, immediately after the Big Bang. Small fluctuations of the cosmic microwave background radiation originating from those times (about 14 billion years ago) are a key for understanding the formation of structure in the Universe. The working group of J. Einasto together with colleagues from other countries has done a great job to link their models to the results of more precise measurements of those fluctuations. A real “precision cosmology” will be possible after the launch of Planck satellite in 2007. Cosmologists from Tartu got involved in preparations for this mission in 2001. Besides the Universe as a whole, studies of structure and evolution of the Milky Way and nearby galaxies (especially, of starburst galaxies) were continued.

Member of Academy Arved-Ervin Sapar supervises the topic studying structure and evolution of stars and stellar atmospheres. One of important land-

marks in 2001 was compilation of a new optimized software package for computing synthetic spectra of hot stars. This userfriendly package involves novel physical approximations which better correspond to real conditions in stellar atmospheres. Other theoretical studies were continued, too, as well as observations of variable stars – the latter not only at Tõravere, but also at Skibotn Observatory beyond the polar circle (Norway) and on Canary Islands (Nordic Optical Telescope on La Palma). Our researchers of stars also joined an all-European space mission – the GAIA satellite, scheduled for launch in 2010, will measure parameters of millions of stars with unprecedented accuracy.

Atmospheric scientists at Tartu Observatory are mostly engaged in the topic supervised by Dr. Tiit Nilson. One of the focal points in this topic is the theory of radiative transfer in plant canopies, elaborated mainly in our observatory in 1960s (Member of Academy Juhan Ross and T. Nilson). However, several basic assumptions of this theory for different types of plant canopies were still not checked experimentally. A CCD radiometer developed by Andres Kuusk has now enabled the test measurements, which showed some differences between the measured and theoretically simulated characteristics. Our theory of radiative transfer in plant canopies has found application even in Earth observing programmes of NASA. Climate studies were continued, on both local (Estonian) and global scales, as well as mapping of the erythemal ultraviolet radiation.

The topic “Climate forming factors and dynamical weather forecast for Estonia” supervised by Dr. Rein Rõõm was closed by the end of 2001. The limited area non-hydrostatic weather forecast model HIRLAM was almost finished and its tests in real weather forecast conditions started, but those studies will continue in Tartu University where R. Rõõm is a Professor of dynamical meteorology starting from 2002.

In 2001, an international evaluation of research at Tartu Observatory was carried out. An expert team judged the quality of research in both two astronomical topics (led by J. Einasto and A. Sapar, respectively) as ‘good to excellent’. In the department of atmospheric physics, each working group was evaluated separately, the results ranged from satisfactory to excellent. The Cosmology Centre, formed on the basis of the departments of cosmology and astrophysics, participated in the competition for naming the Estonian centres of excellence. As a result, it was given the status of potential centre of excellence.

Thanks to the special allocation from state budget, it was possible to renovate our biggest, 1.5-meter telescope in 2001. Most of the work was done by our highly qualified engineers, the mirrors were re-aluminized at the LOMO corporation in St. Petersburg. The computers at both the 1.5-m and 0.6-m telescopes were connected to the local (and thereby also global) network. Substituting of the local coaxial cable network for the twisted pairs was continued.

Aging of the staff continued to be a problem. Possibilities to employ young people and provide them a normal salary level are still very modest. Although the strategy of research and development activities was adopted by the Parliament of Estonia, the discrepancy between this strategy and real financing of research activities is large. In the hope for better future, Tartu Observatory continued to grant the Ernst Julius Öpik stipend. In 2001, the nominee was the postgraduate student of Tartu University Helina Eerik.

INSTITUTE OF ECOLOGY AT TALLINN PEDAGOGICAL UNIVERSITY

Associated with the Estonian Academy of Sciences
16.06.1998

Founded 1992

Personnel: 39, of whom 25 researchers

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In 2001, scientific research was carried out within the framework of 44 topics of different levels and projects, incl. 4 target financed topics and 9 Estonian Science Foundation grants. Fundamental research was also carried out in the form of 1 EU R&D project, 6 international co-operation programmes and 10 Doctoral and 3 Master's works. Implementation in practice of research outcome was effected within the framework of 24 co-operation agreements.

The Institute was mainly concerned with four target-financed topics. Topic "Inertness, tolerance and self-recovery of aquatic ecosystems" (supervisor Jaan-Mati Punning) had the objective to use the relationships obtained in research of the present state of aquatic ecosystems to increase the reliability of palaeoecological reconstruction. For that aim, the techniques of limnological and palaeolimnological research were employed (establishment of composition of sediments and their physical parameters; C, N, H and P content, analysis of spherical airborne ash particles and pigments; analysis of pollen and diatom; analysis of fluxes of settling particulate matter. Multiparameter analysis indicated that reaction of ecosystem to changes in environmental conditions (and hence change in the message imprinted on a given sediment) is contingent upon nutrition type of a given lake. Therefore, the changes in external load are easier to identify in the composition of dystrophic and low nutrition value sediments, than in sediments of hypertrophic or eutrophic lakes. The higher trophic-level lakes display higher stability and their period of restoration of ecosystem is significantly longer than in oligotrophic or dystrophic lakes

Research in the framework of the topic "Dynamics of landscape pattern under natural and human influence: processes and functional relationships" (supervisor Are Kont) gave credence to the belief that the dynamics of landscape pattern of coastal areas depends on the topographic situation of a given area (distance from the sea and altitude above sea level), the edaphic factors (mechanical and mineral composition of soil and its source rock), the ground

water level and regime, and the age of the area and development of its biota. The areas impacted by floods and waves are characterised by unstable taxons and rapid changes.

In raised bog landscapes, the vertical and horizontal accretion of bog massif on the level of microtopography is conditional, mainly on ecological inter-species interactions. The team described the important hydroecological relationships for bog restoration.

Within the framework of topic “Ecophysiology of carbon circle”(supervisor Olevi Kull), with the aim to establish the relationships between environmental conditions and spatial heterogeneity of plant populations, the team researched the intra-canopy field of radiation, the canopy light gradient and acclimatisation of photosynthesis apparatus on tree level, in grass and moss layers. The team verified the hypothesis under which the spectral characteristics of canopy light gradient are indicative of relationship of chlorophyll and nitrogen of canopy. The team continued co-operation with the USA scientists on finding out the impact of possible global changes (in particular the elevated CO₂ and ozone) on photosynthesis of canopy. The team also started the study of interrelations between growth and nutritional conditions of two ecologically close peat moss species and it also started to collect information about modern contemporary methods, used in study of interaction between soil and carbon.

Within the framework of topic “Impact of technogenic factors on the landscapes in North-East Estonia: identification and character of effects” (supervisor Valdo Liblik), the nature and extent of impact of blasting in mining, mine water and air pollution on different ecosystems in North-East Estonia was studied. Comprehensive assessment of environmental impact factors carried out in mines, closed and earmarked for closing, revealed that the major part of former mining fields would remain for a long time (10-15 years) after closing an area of heightened environmental hazard, caused by increased hydraulic conductance of base rock, quasistability and follow-up depressions, danger of pollution from surface and slow rehabilitation of ground water balance and characteristics, back to the natural state.

It was established that the increased hydraulic conductance and quasistability of base rock, geotechnical processes, slow rehabilitation of ground water balance and characteristics, back to the natural state are lengthy processes, therefore the closed mining fields will, for a considerable time (10–15 years) display follow-up environmental impact.

It was also determined that the impact on algae population in rivers of Purtse catchment area due to meteorological, mining technology, hydrochemical and geochemical factors is of a comprehensive (integrated) nature. The sulphates and chlorides seeping into rivers inhibit the growth of phytoplankton.

Retrospective study of relationships between the level of air pollution and pine needles revealed that the time series of needle life of samples taken in different testing areas strongly correlate among one another, however they do not correlate with pollution levels time series.

In 2001 personnel of the Institute published 38 scientific articles. In scientific issues of international readership 30 articles and in Estonian scientific issues 8 articles, plus popular science articles, abstracts etc. In international conferences, 33 papers were delivered. In national conferences and Institute seminars the respective figures were 3 and 21.

The highlight event in 2001 was the issuing of the 7th Publication of the Institute – “Spectral Fluorescent Signatures in Diagnostics of Water Environment “ (Edited by S. Babichenko).

The applied research was mainly designed to perform different monitoring programmes and survey of the status of environment. The Institute carried out Government-commissioned expert examinations of environment, to assess the environmental impact related to closing down of the Ahtme mine and stopping the mining in Aidu, and the building of a plant recycling tires. The 3rd Climatic Report of Estonia was compiled and submitted to the printers’.

Researchers of the Institute actively contributed to the faculty effort in universities, both delivering lectures and supervising undergraduate and post-graduate students in Tallinn Pedagogical University, Tartu University, Tallinn Technical University and Estonian Agricultural University. Altogether, the Institute supervised 13 Doctor’s and 13 Master’s papers in the past year. MSc in geocology was awarded to three researchers of the Institute: Mihkel Kangur, Jaanus Terasmaa and Ingrid Nõulik.

ESTONIAN ACADEMIC LIBRARY

Associated with the Estonian Academy of Sciences 17. 06. 1998



Founded 1946

Personnel: 172

Address: Rävåla pst 10, 15042 Tallinn, ESTONIA

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Website: <http://www.ear.ee>

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anne.valmas@ear.ee

Scientific Secretary: Aita Kraut, Tel: + 372 665 9404

As a state institution, Estonian Academic Library belongs in the administrative domain of Ministry of Culture.

In the reporting year, Library continued the activities subject to its statutory tasks. There was composed a new development plan (subject to the structure, approved by Minister of Culture's Ordinance of 01. 03. 2001 no. 37). The Council of the Library (chaired by Member of Academy Dimitri Kaljo) gathered twice. It analysed the activities of 2000, confirmed the annual report, approved the plan of work for 2001 and discussed the auditing of scientific libraries.

Library is member of the following international organisations:

- IFLA (International Federation of Library Associations);
- ISKO (International Society for Knowledge Organizations);
- CERL (Consortium of European Research Libraries);
- Bibliotheca Baltica (Amalgamation of Libraries of the Baltic Sea Countries).

Library is member of the Estonian Publishers' Association and the founding member of ELNET Consortium (Estonian Library Network).

By the end of the year, there were co-operation agreements with 23 research institutions, of which in the reporting year the agreements were made with Estonian Society of Genealogy, Institute for International and Social Studies at Tallinn Pedagogical University, Foundation of Estonian Institute for the Humanities, AS Audentes.

REPLENISHMENT AND DEVELOPMENT OF STOCKS

Allocated from state budget for replenishment of stocks was EEK 7.74M, less by 4.2% than in 2000. The active holdings of the Library were replenished by ca 20.5 thou units of printed matter, of which 12 thou books, 2.7 thou annual sets of journals; 137 titles of journals in foreign languages are available to readers both in hard copies and net issues. 20 titles are available as net issues,

only. Of each Estonian publication the Library receives one deposit copy. The foreign exchange relations were maintained with 347 institutions and organisations in 35 countries. Through ELNET Consortium, the Library commissioned electronic databases of the company EBSCO. By the end of year there was added *ScienceDirect*. There is an expert commission (chaired by Member of Academy Hillar Aben) to help with the formation of collections.

By the end of the reporting year, the Library had over 2.5 million stock units of printed matter. The total number of stock units decreased, as compared to the last year, because the redundant stock units of the reserve and exchange collection were deleted. On the open access of periodical issues were more than 1.5 thou titles of journals and magazines, whereof ca. 1.3 thou in foreign languages.

The entries of acceding stock units are recorded, as they are received, into the joint electronic catalogue of scientific libraries ESTER. At the same time, the card catalogues are being converted. By the end of the year 16% of active holdings were available in electronic catalogue.

READER SERVICE

In that year, the Library was visited by over 18 thou readers, i.e. by 3 thou more than in 2000. The increase was mainly due to university students, specialists, and school students. The target group of readership – scientists, faculty members, specialists and top executives, university students, post graduate students and doctoral students – account for 78.1% of readers. Of public law universities, Tallinn Pedagogical University contributed the largest slice of readership, of private higher schools – the Estonian Institute for the Humanities. By the end of 2001, registered in electronic database of readers were 18,312 readers.

Transition to computer service is proceeding at a steady pace. In the reporting year, there was introduced electronic registration of visits by readers. With the aim to improve the reader service, reorganisation was carried out and additions made.

BIBLIOGRAPHICAL AND REFERENCE WORK

Continuing was the work for compilation and preparation for publication of retrospective national bibliography.

Published was Bibliography of Finno-Ugric ethnography and folklore for 2000.

The Library completed compilation and getting ready for print of Bibliography of Estonian Geology for the period of 1971–1980. The book was published at the end 2001. The printing costs were charged to Institute of Geology at Tallinn Technical University.

With a view to present the accessions, 43 exhibitions were held and 86 bulletins compiled. Readers can get information about journals ordered and accessions also on website.

There were organised 37 topical and anniversary exhibitions. The Library continued the series of expositions presenting new generation scientists of Estonia in areas of mathematics, physics and astronomy. There was started a new series of exhibitions, presenting the Nobel Prize winners. The first exhibition of the series was "Nobel Prize 100. I Physics".

The Library was visited by 18 excursions.

RESEARCH AND DEVELOPMENT

The traditional directions of research work at the Library are the history of the Estonian book and printing business, the history and composition of collections of the Baltica Department, collection formation and use, preservation of collections, readers and reader service, scientific bibliography, classification and subject indexing.

The Library continued research of use of scientific periodicals and foreign book, as well as study of composition of readership. In focus in 2001 were works related to celebration of 450th anniversary of collection of *Bibliotheca Revaliensis ad D. Olai* – compilation of collections of articles, preparation of exhibitions and international scientific conference, large scale restoration works of paleotypes.

Published was the Year Book 2000. Released from print was Tiiu Reimo's monograph "Book Culture in Tallinn in the second half 18th century", which was then submitted for defence to doctoral committee of Information Sciences Department of Tallinn Pedagogical University. Tiiu Reimo was awarded PhD in information sciences.

Publications in domestic and foreign specialist issues were altogether by 13 authors (22 articles). Library's personnel delivered lectures and papers at conferences, information days and seminars (total 30). In co-operation with Estonian Librarians Association, the Library held the conference "Book as cultural value", and in co-operation with Under&Tuglas Literature Centre the conference "Erratic exile. Ideas and emotions in Estonian expatriate literature".

The Library was seeking for ways to develop the virtual library, starting with scanning the Estonian maps dating of 1930. The purchased map reading programme enables to make maps available to readers electronically, take extracts and make printouts.

Digitalisation turned out the only single way to preserve the historical text of Heinrich Stahl's disputation "*De demonstrationis medio...*" printed in Rostock in 1619. Computerised processing also improved the legibility of the text. Thanks to those novel technical opportunities the otherwise doomed 400th

years old text was reborn and could be read again, for the first time in Estonia in 2001.

IT development work enabled to reorganise the LAN at the beginning of 2001 and to put into operation the new server of internal network. In the reporting year the emphasis continued to be on integrated library system INNOPAC, on co-operation with Consortium of Estonian Library Network libraries.

Carrying on was the discussion on role and status of Estonian Academic Library, paralleled by working out of the state strategy and base documents for R&D activities. Minister of Education set up a commission, to work out the activities plan with the aim to transfer the Library from administrative domain of Ministry of Culture to that of Ministry of Education. Member of Academy Dimitri Kaljo sat on said commission, on behalf of the Estonian Academy of Sciences. Rectors of public law universities, too repeatedly discussed the related issues.

From 1 January 2002, the Academic Library started operating as an institution administered by Ministry of Education. On 28 January the rectors of public law universities signed the Letter of Intent, in line of which the Library would join Tallinn Pedagogical University, becoming part of the system of scientific libraries, drawing on universities, thereby continuing in its time honoured mission.

INSTITUTE OF THE ESTONIAN LANGUAGE

Associated with the Estonian Academy of Sciences
11.05.1999



Founded 1947

Personnel: 76, of whom researchers 22, editors 15

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Scientific Secretary: Hille Pajupuu, Tel: + 372 644 3472, Hille.Pajupuu@eki.ee

Institute of the Estonian Language is successor of Institute of Language and Literature, founded in 1947 in the composition of the Estonian Academy of Sciences. As from 1995, the Institute has belonged to the administrative domain of Ministry of Education

Research in the Institute is done in three departments:

- Department of lexis of literary Estonian headed by Margit Langemets. Target financed research topic “Origin and structure of lexis of literary Estonian”, supervisor Urmas Sutrop.
- Department of Estonian dialects and the nearest kin languages headed by Kristiina Ross. Target financed research topic “Grammar and lexis of Estonian dialects and the nearest kin languages”, supervisor Kristiina Ross.
- Department of grammar of literary Estonian headed by Peeter Päll. Target-financed research topic “Grammatical structure and typology of literary Estonian”, supervisor Ülle Viks.

Department of lexis of literary Estonian continued, in keeping with the schedule, the editing of large base-dictionaries: Dictionary of Literary Estonian, Estonian-Russian Dictionary, Finnish-Estonian Dictionary. Released was the 1st fascicle of vol. 6 of Dictionary of Literary Estonian, edited by Tiia Valdre, Mai Tiits and Leidi Veskis (240 pp.). The Department continued or initiated studies of Estonian in different lexical-semantic areas: foreign words (Merike Mägedi, Margit Langemets), neologisms (Indrek Peterson), polysemy (Margit Langemets), connotations (Piret Voll), vocabulary of fragrances, smells and odours (Urmas Sutrop).

Department of Estonian dialects and the nearest kin languages continued editing the Dictionary of Estonian dialects, the replenishment of etymological card file of the Estonian language and the compilation of Estonian etymolo-

gical basic dictionary. Released were: Estonian Dialects 2, fascicle 10, edited by Vilja Oja and Jüri Viikberg (229 pp.); Estonian Dialects 3, fascicle 11, edited by Anu Haak, Evi Juhkam, Varje Lonn and Piret Norvik (208 pp.). In Tartu University, senior researcher of the Department Vilja Oja defended the doctoral paper “Linguistic researches in Estonian colour designations”. Available now in Internet is the toponymic database <http://www.eki.ee/knab>, continually replenished.

Department of grammar of literary Estonian continued to develop the grammatical database of the Estonian language (Ülle Viks, Indrek Hein), completed have been morphological analysis and making monosemantic of basic components of compound words. The database comprises *ca* 65 000 entries. Compiled has been K. J. Peterson’s grammatical author’s glossary (Ülle Viks, Indrek Hein, Ene Vainik).

In Tartu University, two MA theses were defended: Ene Vainik “Semantics of emotional lexis of Estonian” <http://www.eki.ee/teemad/emotsioon> and Meelis Mihkla “Synthesis of text-speech of Estonian”.

Language consultation service of the Institute continued as popular as ever (staffed by Tiiu Ereht, Tiina Leemets, Sirje Mäearu, Peeter Päll, Maire Raadik, as replacements Elli Riikoja, Jane Lepasaar). In the reporting year, there were *ca* 7300 language help seekers putting calls through to consultation service (cf. in 2000 – 7350 calls, in 1999 – 6850 calls). The Service made 31 letters (including language expert examinations and letters on name regulation). Language consultation is available at <http://www.eki.ee/keeleabi>.

2001 witnessed 16 publications from researchers of the Institute, in book format. They delivered 37 papers. Of note among them are:

- From days of old until now. Karl August Hermann 150. Compiled by Urmas Sutrop (287 pp.).
- IAAK. Kristian Jaak Peterson 200. IAAK. Kristian Jaak Peterson: aus Anlaß seines 200. Geburtstages. Editorial Board: Kristiina Ross, Urmas Sutrop, Jaan Undusk, Ene Vainik, Ülle Viks (425 pp.).
- Wastne Testament 1686. Panel of the issue: Urmas Sutrop, Mati Hint, Kristiina Ross, Toomas Väljataga (483 pp.).
- Piret Norvik. Stories by Käsmu coast dwellers. Editor Helmi Neetar (176 pp.). With CD annexed.

Institute of the Estonian Language is involved in many joint projects:

- Finnish-Estonian Dictionary (1998–2002), in partnership with Kotimaisten kielten tutkimuskeskus (Helsinki). In process of project a large contemporary reference book is being compiled (Anu Haak, Paul Kokla, Külli Kuusk, Helga Laanpere) and edited (Valdek Pall, Maija Länsimäki). Editor in Chief Valdek Pall. Upon completion of the

project, there will be available also SGML electronic version (Margit Langemets).

- *Atlas Linguarum Fennicarum* (ALFE). Compilation and editing of an atlas of Balto-Finnic languages (Arvo Laanest, Helmi Neetar, Vilja Oja) conjointly with Finnish and Karelian linguists. Editor in Chief Professor Tuomo Tuomi (Helsinki).
- Atlas of European languages *Atlas Linguarum Europae* (ALE). Atlas will present in parallel the dialectal linguistic matter of all languages spoken in Europe, from 2631 mapping points. In 1976–2000, ALE obtained an introductory part and 5 map folders, with volumes of commentaries appended. The project sponsored by UNESCO has attracted linguists of 51 European countries. Of Estonian linguists, sitting on editorial board are Helmi Neetar and Vilja Oja.
- Estonian-Latvian Dictionary (2001-2004). Involved are Katrin Kuusik, Külli Kuusk, Jane Lepasaar, Lembit Vaba, Margit Langemets, Ülle Viks.
- Text-speech synthesiser of the Estonian language – joint project of the Institutes, Institute of Cybernetics and Filosofti LLC, task force member on part of the Institute Meelis Mihkla.
Cf. <http://www.eki.ee/keeletehnoloogia/projektid/syntees>
- Internet portal KeeleWeb <http://ee.www.ee> is maintained by Jaak Vilo, EKI, EKSA, Filosoft LLC. Task force member on part of the Institute Ülle Viks, Indrek Hein, Margit Langemets.

ESTONIAN LITERARY MUSEUM

Associated with the Estonian Academy of Sciences 11.05.1999

Founded 1909

Personnel: 88, of whom 58 researchers and assistant researchers, 15 librarians

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The World Conference of International Council of Museums in Barcelona in 2001 highlighted the key role and increased accountability of all media agencies in Internet-dominated society. In this era of electronic media, with the throbbing pulse of life synchronised, the museums, libraries and archives are supposed to vest in themselves the tasks of an agency responsible for linking the culture in space and time (chronotope). As guardians of social memory they should not remain mere collectors and repositories of cultural artefacts, “the mausoleums of things gone and lives wasted”. Conversely, they should carry on as institutions where the things, events and developments can be rationalised against the relevant background and in the appropriate context. The crux of the matter is how to develop skills to evaluate the past, to render it understandable, comprehensible and also make it usable. The actual threat to be converted into a bearer of mass culture must be suppressed, by professionalism and ethical handling of subject matter, by operatives of media institutions.

Estonian Literary Museum, as a central archive of history of ethnic culture and a depository of printed matter of ethnic value has for years, while planning its scientific and applied work, proceeded from the following principle. The scientific work must help one see the history of formation of society in its economical, political and cultural aspects, be a bridge between the time gone, the fragmented “time is” and the future. This direction, of which the prerequisite is knowledge of contemporary methods of research in one’s domain, operative international co-operation agreements and daring to make new generalisations, permeated the development plan approved by scientific council of Literary Museum in May 2001.

RESEARCH HAS FOCUSED ON AND AROUND THE FOLLOWING SCIENTIFIC TOPICS

Four target-funded scientific topics draw on archival sources collected in decades into Literary Museum, and on latest achievements of science, while serving a focal point of new development projects.

Research topic based on scientific collections of Estonian Cultural History Archives “Sources of Estonian literature and history of culture” (supervisor senior researcher Sirje Olesk) brought back into our history of culture the work and activity of Richard Antik. Research shows that the work by R. Antik is topical and unsurpassed. Antik was a leading bibliophile and systematic sponsor of ethnic bibliography of the bygone Estonia. The commented issue of correspondence between Bernard Kangro and Gustav Suits (1944-1955), like the research in Estonian literature in 50s once more supported the fact that the Estonian culture was and continues to be a unity, in its best part. Presenting in digital form Johann Köler’s letters and its release electronically proved that the piece of writing made with pencil on friable paper can be preserved and used. The original manuscript is cleaned and conserved, with the researchers handling the digitalised first-hand copies, precluding errors and omissions, prone to happen while rewriting.

The Museum continued work on 2nd volume of “Works” by Friedrich Robert Faehlmann, preparation for publication of a comprehensive volume of Karl Ristikivi’s letters and research in academic and cultural relations of Finland and Estonia. The collection of Estonian biographies developed into a source of research, enabling the drawing of important conclusions, due to the competition “My life and the life of my nearest and dearest in the Estonian SSR”.

The scientific topic of Folklore Archives “Folklore as revealing the changes of mentality in society” (supervisor senior researcher Mall Hiimäe) has turned out a hotbed of a competent research team of folk poems, comprising young talented people. The collection of articles presenting the most recent daring standpoints of the researchers of folk poems “Folk poem – language, music, poetics” provides an answer to an ever repeated question of whether the folk poems, ancient and defunct are worth studying at all. Folk poems are the mirror picture of our ancestors’ soul, the reflection of their values, desires and realities. The intriguing titles of the collection, quite naturally give rise to the next question: what mirrors our soul today and why is the mirror like it is? Folklorists have joined the psychologists, anthropologists, social scientists and others, in search for an answer. Change of red-letter days of the folk calendar, transformation of designation of events, marking the life circle of man, creation and transformation of stories disseminated by media! All those are but isolated benchmarks which folklorists collect, store and research, to answer both this question and many other concerning the life of people and nations.

Research topic supervised by senior researcher Ingrid Rüütel “Typology and structure of folk music of Estonians and their kindred people and its social and cultural context in the past and present” resulted in a database of folk melodies, as a development work. The ca 5000 melodies provide for generalisations about specifics of evolution of Balto-Finnic archaic pre-song vocal genres and song. The specificity of Setu keening and Nganasani songs testifies to the role

of folk song in formation of local identity. It supports the surmise that survival of folklore as hobby is a mechanism of psychological compensation, forming a network by means of cultural communication. It increases the feeling of ontological security, bolsters the link between generations and enhances the quality of life. Research into folklore and song festivals reveals those are present day traditions where the songs are interlaced with different stylistic strata, different ethical and emotional expressions, and to whose success or failure media may substantially contribute.

The folklore of Estonian people and kindred people in its diversity is the focus also of the scientific topic “Folklore of Estonians and their kindred people: genres, structure, typology, historiography”, supervised by senior researcher Mare Kõiva. The said topic is related by several contiguous projects, funds to which have been secured from the programme of kindred people and programmes “The Estonian language and ethnic culture” and “Language and culture of South Estonia”. Digitalisation of folklore subject matter, enabling to share in the bounty of folklore, through Internet, by a wide circle of those interested, have made that topic innovative and attractive to many. Not only do the regularly released electronic folklore magazines *Folklore* and *Mäetagused* secure a rapid and adequate circulation of treatments of folklore and respective scientific research, but they also provide for continuous scientific commerce. In research of Finno-Ugric folklore and popular belief, the Museum handled the problem range of Votic, Vepsic and Mordovian tradition and opened an extensive website in Komi and Ersä languages. Now that the puzzles and riddles as shorter forms of folklore have been studied, the focus is on proverb, funny story and rebus.

The highest token of recognition to research done by Literary Museum was awarding to Estonian History of Culture and Folklore Centre, formed on the basis of Museum, the title of centre of excellency of Estonian science. Becoming a Centre of Excellency, is rather a challenge to cope with new tasks and goals, and to a lesser degree recognition. Estonian History of Culture and Folklore Centre embraces four research teams. Head of the Centre is Member of Academy Arvo Krikmann

KEEPER OF CULTURAL MEMORY

The bulwark of the Literary Museum is its ethnic cultural history archives. Therefore the performance can not be evaluated by the material researched and the number of publications released. 20 books, 9 electronic issues and several hundred publications released in the reporting year have helped our culture to hold on and to make progress, have furthered the cultural awareness and broadened the perspective. And yet, it is just one aspect of daily grind. More importantly, Literary Museum takes care of preservation, replenishment and use of cultural treasure trove. The collections created in the 19th century, retroactively containing everything which has been of essence to the Estonian people, in its cultural and ideas-related development and which attempt to

retain and deposit the residuals of the fleeting day, are as yet too vulnerable. The foundation on which they rest is vacillating and shaky, more than ever before. The collections of ethnic printed matter have not been insured, their conservation funds-starved and their sustenance left almost entirely at the discretion of workers of the Literary Museum. Such a situation has persisted for years. The governmental authorities have heretofore been lavish with promises only.

For that reason, we especially appreciate the breakthrough, due to project supports in 2001, in improvement of conditions of preservation of printed word and manuscripts and unveiling of ever more numerous archival sources to researchers. Digitalized have been the 18th century calendars, microfilmed has been the best part of 19th century journalism, available on Internet are large folklore collections. Yet this is only a beginning of an impressive work ahead.

The third multifaceted and extensive area of activities of the Literary Museum is related to cultural and educational events directed at cultural public. In the first months of the reporting year the activity was focused on exhibitions of the Year of Estonian Book, the conferences, presentation of books and library. 14 March, anniversary of Kristian Jaak Peterson and Day of Native Tongue, was the final day of competition of patriotic poetry of school students “The patriotic poem of the 21st century”. The winners were named in a festive atmosphere. The competition, attracting youth from every town and county of Estonia, proved better than any description or explanation that poetry has both connoisseurs and adorers among the young people and that although the meaning of fatherland has changed, it is essentially the same: we all need a native land. The exhibition dedicated to 60th anniversary of Jaan Kaplinski and the scientific conference; the extensive exhibition dedicated to Ilmar Laaban’s 80th anniversary; conference on recovery of Richard Antik; conference of young folklorists; Nüpli spring school; and the traditional Kreutzwald Days – scientific conference on folklore and literature (45th in the reporting year). This is just a short list of events, which are part and pertinent of our cultural life. The importance of those events has increased, as revealed not only by number of visitors, but also by the range of topics of papers and their pithiness. The papers are no longer just surveys or descriptions. They are essentially an answer to why and how.

We too query ourselves, more often why, how, to whom and for what purpose. This is our responsibility and liability for the present day and the next day. This is the responsibility for viability and openness of the Estonian culture and for sustainability of social memory.

ASSOCIATED SOCIETIES, UNIONS

ESTONIAN NATURALISTS' SOCIETY

Associated with the Estonian Academy of Sciences
23.01.1998



Founded 1853

Membership: 798 active members (whereof 34 permanent), 18 honorary members and 640 trustees

Domicile: Struve 2, 51003 Tartu, ESTONIA

Address: P.O. 43, 50001 Tartu

E-mail: struve@elus.tartu.ee

Website: <http://www.loodus.ee/lus/>

President: Tõnu Möls, Tel: + 372 7 348 096, + 372 55 33 820, + 372 7 472 447

Scientific Secretary: Linda Kongo, Tel: + 372 7 341 935, + 372 55 907 544,

Fax: + 372 7 427 011

Estonian Naturalists' Society is bringing together *ca* one and a half thousand natural scientists and amateur-naturalists. Units of the Society are Estonian Theriological Society, Jakob von Uexküll Centre, Estonian Malacological Society, and Estonian Mycological Society. There are also sections of botany, entomology, forestry, geology, anthropology, theoretical biology, palaeontology, biology, and Commission of Lakes. Reporting to the Society are three special commissions: Commission on observation networks, Commission on library and Commission on history of natural sciences. Moreover, there are the following subordinated units attached to the Society: Assembly of the honorary members of the Society, Estonian inter-societal ecological assembly, Union of scientifically-minded greens, Centre of game biology and Working group on informatics. Under a co-operation agreement with Estonian Forest Society, the Society organised the activity of Research centre of rodents, located in Elistvere Animal Park.

The main concern of the Society the nature observations were continued. The Society organised phenological observations, participated in Commission of plant names, resolved theoretical and applied problems of nature protection. Compiled were the surveys of strategy and situation in Estonia of the protection of living nature and landscape, the professed goals versus actual protection of plant species, protection of public gardens, recreational parks, and arboretums, and forest cultures of exotic species. Analysed were the vascular plants under protection in Estonia and the causes of rarity of plant species. The Society studied the soils of cliff woods and eutrophic mire soils in North-Estonian karst landscapes. A spring mushroom camp in Landscape Preserve of North-Kõrvemaa and an autumn mushroom camp in Hiiumaa, jointly with

Turku (Finland) mushroom society were held. The forestry research and the study of history of natural sciences proceeded with impetus.

The Society convened 7 general meetings (one of them as Baer Day) and ca 50 meetings with papers of the subordinated units. There were held the XXIV Estonian Naturalists' Congress in Rõuge "Nature in South Estonia", the XXVII Spring School of Theoretical Biology in Tipu "Mathematics and biology", the XII Estonian Ecological Conference "Estonian nature and the EU". Together with the Centre of Physical Anthropology of Tartu University, there was held in Tartu a national conference on anthropology and a day of scientific papers, to commemorate J. Aul. The Society participated in organisation of excursion to Saaremaa of the Finnish Biological Society "Vanamo". Jakob von Uexküll Centre convened a seminar on Norwegian ecophilosophy, moderated by Morten Toennesen of Oslo University, and a one-day seminar "Estonian culture and nature". The Society also continued organisation of seminars "Text and Nature", focused on evolution in Estonian culture of the tradition of depicting nature, and nature oriented literature. The Section of Entomology participated at organisation and holding of the international symposium "Biological diversity of spiders and bugs on islands of central part of the Baltic Sea". Many young people were attracted to all those events. The Society commemorated the anniversaries of venerated scientists Karl Ernst von Baer (209th anniversary), Johannes Christoph Klinge (150th anniversary) and Juhan Aul (104th anniversary). The Society participated in organising the Exhibition *in memoriam* of Viktor Masing, and the celebration of 75th anniversary of Maret Kask.

In the reporting year, the following publications of the Society were released:

- Year-Book of Estonian Naturalists' Society, vol. 80 (336 pp.);
- XXIV Estonian Naturalists' Congress "Nature of South Estonia" (118 pp.);
- *Schola Biotheoretica*, XXVII – "Mathematics and biology" (88 pp.);
- *Folia Cryptogamica Estonica*, no. 38 (88 pp.);
- Lepinfo no. 12 (jointly with Estonian Lepidopterological Society, 92 pp.).

The library of the Society numbered, by the end 2001, 157,760 tally units of printed matter. The titles were exchanged with 105 institutions and organisations from 24 countries.

ESTONIAN GEOGRAPHICAL SOCIETY

Associated with the Estonian Academy of Sciences
27.01.1998



Founded 1955

Membership: 403 active members, 9 honorary members,
and 4 foreign members

Address: Kohtu 6, 10130 Tallinn

President: Jaan-Mati Punning, Tel: + 372 662 1853

Scientific Secretary: Helve Kotli, Tel: + 372 645 2744

In the reporting year, the activity of the Society (EGS) was carried out in five sections: Section of Physical Geography, Section of Climatology and Hydrology, Section of Landscape Ecology, Section of Economical Geography and Section of School Geography, plus the Tartu Department.

The Society concluded extensive research into development of Estonian mires and marshlands and continued to elaborate the scientific basis of selection of geological rarities and creation of water preserves. It also started compilation of description of nature study tracks. Section of School Geography was involved in solving the scientific-methodological issues of teaching the schoolroom geography. Members of the Commission of Terminology participated in the work of the Commission of Place Names and also advised those interested in matters relating to geographical terminology and toponyms. Released in print was the Year-Book of Estonian Geographical Society, vol. 33 (editor Laine Merikalju, 295 pp.).

The environmental protection and tourism related seminar-meetings were organised five times: in Avanduse, Sõmeru, Valkla, Vilivere and Mäetaguse. Presented were guides of schools and local environmental protection activists.

The Society was continually engaged in organising the training for geography teachers. Besides the specialist training courses of the Section of School Geography, the members of the Society also spoke at national training courses and seminars for geography and biology teachers, delivering over 60 lectures. The Society supervised the extra-curriculum geographical research of school students, participating in the organisation of nearly 20 student events, primarily in organising local competitions of national geographical olympiads and geographical days. Jointly with Tartu University and Ministry of Education, the Society organised the XXVII National Geographical Olympiad to compulsory school and gymnasium students, with final competition in Lihula, and in August the Geographical Olympiad of the Baltic school students in Pärnu.

The Society organised 4 meetings with papers, with 7 papers, and 6 club evenings, hearing the travelogues and news in geography. The environmental and tourism related expositions were organised in Avanduse and Valkla.

The annual scientific excursion with nearly 100 members of the Society participating was held in South West Estonia, to study the nature, economy, history of culture related issues of Pärnumaa and Viljandimaa, and regional economic policy of Pärnumaa. By sections, organised were five excursions to bogs of Harjumaa and Raplamaa, and to Lahemaa National Park. There was also organised an excursion abroad, to Republic of Finland, to look at nature, economy, history and culture of Ahvenamaa.

Estonian Geographical Society is member of International Geographical Union and Association of Geographical Societies of the Baltic Rim.

THE SOCIETY OF ESTONIAN REGIONAL STUDIES

Associated with the Estonian Academy of Sciences

27.01.1998

Founded 1939

Membership: 232 members

Address: Kohtu 6, 10130 Tallinn, ESTONIA

Chairman: Andrus Ristkok, Tel: + 372 50 67 806

Deputy Chairman: Elvi Sepp, Tel: + 372 612 5108

Scientific Secretary: Eva Maaring, Tel: + 372 644 0475



The Society maintains sections in Pärnumaa (47 members), Järvamaa (25 members), Viljandimaa (founded in 2001, 20 members) and East-Virumaa in Alutaguse (founded 2001, 10 members). Co-operation groups operate in Tallinn, Rapla and Paikuse.

Focus in the activity of the Society has been shifted to methodological side of the regional studies. Under the aegis of the outgoing Year of Estonian Book, in January all those interested in regional studies were invited to a talk show in Academic Library, with Head of the Baltica Department Tiiu Reimo presenting the Baltic German sources of history which are helpful in regional studies. In October, there was held a two-day training session to librarians of the county of Viljandimaa "Sources of data for regional studies and how to handle them" (lecturing were Andrus Ristkok, Kaljo Laas, Jaan Eilart, Tiiu Reimo). In the study tour to Paldiski and Harju-Madise in June, the members looked at nature of the North West Harjumaa and got a glimpse of its history (the tour was supervised by Rein Einasto and Mihkel Veiderma). In co-operation with Pirgu Development Centre, in February there was published a methodical instruction

for organisation and delivery of works on regional studies “Author’s reference book” (author L. Abo, 72 pp.).

Village Commission attached to the Board of the Society (Chairman Kaljo Laas) held two study days in Tartu, supervised by Laine Linnus. In the study day of April, the veteran scholars of regional studies Vaike Hang, Aino-Monika Jõesaar and others presented their work related experience, through papers and exposition of materials. After which the participants looked at sources of research in Tartu Museum. In November, the Historical Archives witnessed an archives day, where the participants were able to look at previously ordered archival materials. The Commission continued work on compilation of bibliography and the database of Estonian historical villages. Updated and replenished were the lists of regional studies libraries and small museums, which were handed over to the printer’s, by the end of the year.

Research by members of the Society in regional studies was summarised on General Assembly of the Society held in Tallinn on 14 September. At the same time, there was an exposition staged in the foyer of Estonian Academic Library “Most recent issues by Estonian researchers in regional studies”, with over one hundred books on the subject on display.

There was improving co-operation with other societies, unions and institutions. Centre of Estonian Youth Work (board member of Society Ene Luka) convened on 12 October the regular competition of works of regional studies by school students and a subsequent conference. On 9 March, the researchers in regional studies of East Virumaa held their conference in Illuka. On 16 April, there was a meeting with papers on regional studies in Iisaku, dedicated to the Year of the Book, and at the turn of June in Vaivara, the gathering of Vaivara villages. Researchers in regional studies of Raplamaa organised on 9 November, as supported by county authorities, the day of regional studies at Järvakandi.

At Audru, in the county of Pärnumaa there were organised, on 11–12 August the summer days of Estonian Geneological Society. Attending was in the capacity of guests a numerous representation of the Society. Alternatively, on the day of villages of Kolga in the county of Harjumaa (moderated by Astrid Veltsmaa) many of membership of the Society of Regional Studies, the Geneological Society and the Society of History of Sports gathered.

Through its membership, the Society is in close co-operation with the regional studies’ group of Tallinn City Museum. Researchers in regional studies celebrated the 90th anniversary of the honorary member of the Society Voldemar Miller all over Estonia (convenors of the anniversary events were the Union of Librarians and National Library). Conjointly with Tallinn House of Scientists the Society held a common give-and-take talk show, to commemorate the

renowned researcher of history and native place of Estonia, Member of Academy Hans Kruus on his 110th anniversary.

There have been common undertakings with geologists, limestone and other natural scientists' unions. The Karst Day in Tuhala on 23 September was dedicated to the memory of a veteran karst researcher and regional studies man Ülo Heinsalu.

Numerous are pieces of research in regional studies brought to the notice of the public in hard copy format. Besides the oral presentations in public, we reckon that nearly 150 articles and 30 separate issues have been published, of which the following should be highlighted:

- Lembit Abo. Author's reference book (72 pp.);
- Enn Esko. Karilatsi. Taevaskoja. Põlva. Maalehe Raamat (87 pp.);
- On tracks of Gustav Beermann. Compiled by Heino Joost. Museum of Põltsamaa (118 pp.);
- Aino-Monika Jõesaar, Liivi Vassiljeva. Until the war brought down it all... Cultural story of parishes of Vaivara and Alutaguse until 1944. Ida-Virumaa (290 pp.);
- Glass Museum of Järvakandi. Day of researchers in regional studies of Raplamaa 09.11.2001. Compiled by Henn Heinsoo. Järvakandi (55 pp.);
- Time and people. Story of culture of villages at Kodila. Compiled by Ester Kulagina. Rapla (566 pp.);
- Mati Mandel. Tragic summer of 1941 in Keila (77 pp.);
- Merivälja. Compiled by Kaja Laanemäe and Henno Ustav (189 pp.);
- History of Pärnumaa. Fascicle 4. History of villages 2. Compiled and edited by Andres Toht. Pärnu (127 pp.);
- Karl Oberschneider, Heino Mägi. Glimpse on history of co-operative trade in Elva and Otepää. Consumers' Co-operative of Elva (60 pp.);
- Julius Põldmäe. Multiple-period lifetime. Maalehe Raamat (215 pp.);
- Ago Rullingo. Muhumaa. Nature. Time. Man. (663 pp.);
- Hans Salm. From the day of birth until this day. A hundred years behind the counter of a co-operative outlet. Consumers' Co-operative of Tõrva (168 pp.);
- Hans Salm, Hanno Valdmann. Law and order protection in Valgamaa 1919-2000. Valga (304 pp.);
- Ants Talioja. Tuhala. Maalehe Raamat (111 pp.);
- School students' works in regional studies, 22. Compiled by Ene Luka (121 pp.);
- Old-Pärnu 750. From the diocese until this day. Compiled by Silvia Sarv. Pärnu (66 pp.);
- Tiilen's family. Compiled by Selma Vasar (16 pp.);
- Story of school at Viru-Jaagupi. Compiled by Aliise Vaasma (72 pp.);
- Helve Voll, Hardo Voll. Kose. Kose-Uuemõisa. Sanatorium. Maalehe Raamat (87 pp.).

ESTONIAN MOTHER TONGUE SOCIETY

Associated with the Estonian Academy of Sciences
4.02.1998



Founded 1920

Membership: 344 active members, 9 honorary members

Address: Roosikrantsi 6, 10119 Tallinn, ESTONIA

E-mail: es@eki.ee

Chairman: Mati Ereht, Tel: + 372 7 375 224

Scientific Secretary: Tõnu Tender (until 31.08.01)

Asta Õim Tel: + 372 644 9331

Librarian: Helju Kaal, Tel: + 372 644 9331

In the reporting year, co-convened by the Estonian Mother Tongue Society were three conferences:

In Tartu University hall the Conference “Uralic languages and their contacts”, dedicated to the 80th anniversary of Paul Alvre (8 papers);

The 34th J. V. Veski Day “Estonian language policy” (5 papers);

The 2nd Estonian Summer Days in Crimea (dedicated to the 140th anniversary of Estonians’ presence in the Ukraine) (11 papers), the proceedings of which will be published as a volume “140 years of Estonian presence in Crimea”.

Convened or co-convened by Estonian Mother Tongue Society were 8 language days, of which 7 in Estonia.

The Language Days were convened on various topics: at Sillamäe at Kannuka school, in Tallinn at Õismäe Gymnasium of the Humanities and Russian Gymnasium. The Language Day of county of Viljandi was held in Võhma Gymnasium. The Language Day of Russian schools in Tallinn, Lasnamäe “Major and minor languages, young and old languages” was held in Mahtra Gymnasium. At the Language Day organised in Jõhvi the local dialect was taken under scrutiny, at Kiltsi Language Day the topic was phonetics and the sound *õ*.

Outside the borders of Estonia there was held the St. Petersburg Language Day on modern literary language and language policy.

Conjointly with the Academic Folklore Society, there were held 3 Folklore Days. Two of them “from Peterson to Runnel” were held to different age groups of Tallinn English College. The third Folklore Day was held in Tallinn Pelgulinn Gymnasium, with Ülo Tedre speaking about Estonian folk customs.

There were 9 meetings with papers, of which in Tartu 5 and in Tallinn 4. Two meetings with papers were organised together with Tartu University and one with the Academic Baltic German Cultural Society.

The reporting year witnessed the rebirth of the tradition of dialect competition. The dialect correspondents were offered a training seminar "School of Language Items Collector".

Estonian Mother Tongue Society co-ordinated the organisation of scientific projects, funded within the framework of the European Linguistic Year:

- General description of problems of strategy of the Estonian language in respect of sublanguages (project leader Reet Kasik).
- Compilation of the book "The Corpus Planning of the Estonian Language" (project leader Tiiu Ereht).
- The 1st stage of research into the use and situation of the Estonian literary language (project leader Helle Metslang).
- Compilation of the book "Estonian Language" (project leader Mati Ereht).
- Compilation of the book "Estonian dialects" (project leader Karl Pajusalu).

Involved into performance of those projects were researchers of Tartu University, Tallinn Pedagogical University and Institute of the Estonian Language.

The Society carried on compiling the book "Cultural mirror in dialects" (responsible Mari Must). Being finalised is the editing of the comprehensive research by Eduard Leppik "Survey of cult stones with shallow depressions in Lääne-Virumaa".

Estonian Mother Tongue Society organised, together with Tallinn House of Scientists a talk show "Estonian language of science and the EU". Of six originally contemplated discussions four have been held. They highlighted the Estonian language as a language of engineering, natural sciences, the humanities and IT. This initiative's sponsors are Open Estonia Foundation and Information Secretariat of the EU.

Published in the reporting year were 3 issues of the Society: The Mother Tongue Society Year Book no.: 46 (2000) (315 pp.); the linguistic journal Oma Keel no.: 1 (86 pp.) and no.: 2 (95 pp.).

In 2001 the Library of the Estonian Mother Tongue Society was replenished by ca one hundred acquisitions. By the end of the year the stock of Library totalled 5 274 inventoried books. Printed matter is being acquired by exchange, donations and purchasing.

ESTONIAN UNION OF THE HISTORY AND PHILOSOPHY OF SCIENCE

Associated with the Estonian Academy of Sciences

4.02.1998

Founded 1967

Membership: 105 active members, 7 honorary members (of whom 4 from outside Estonia), 6 corporate members

Address: Estonia pst 7, 10143 Tallinn, ESTONIA

Chairman: Karl Siilivask, Tel: + 372 645 4594

Scientific Secretary Karl Martinson, Tel: + 372 645 4415

Scientific Secretary in Tartu: Sirje Tamul, Tel: +372 7 375 657

Estonian Union of the History and Philosophy of Science is a private law science and development institution. Incorporated into the Baltic Association of the History and Philosophy of Science, the Union is also member of the International Union of the History and Philosophy of Science.

Also incorporated into the Union is the Baltic Centre of Science Philosophy and Science Methodology (Chairman Prof. Rein Vihalem), involving over 20 Estonian, Latvian and Lithuanian historians of science.

There were held five joint meetings of Board of the Union and editorial board of “Biographical Lexicon of Estonian Scientists”.

The Union continued work on compilation of the manuscript of the 2nd volume of Biographical Lexicon. The Union also continued compilation of serial volumes “History of science and the present day” and “Glimpses on history of science in Estonia”.

On 30–31 January there was held the regular international Baltic Conference on the History of Science, the 20th successive one. 180 historians of science participated at plenary meeting, symposium and sections, of whom 97 with papers. Almost two thirds of papers were from outside Estonia – Latvia, Lithuania, Ukraine, Finland, Germany, Japan and the USA. Abstracts of papers appeared in the volume of the Conference. The session of the Assembly of the Baltic Association of the History and Philosophy of Science, held at the end of the Conference, elected President of the Assembly for the next period (Member of Latvian Academy of Sciences Janis Stradiņš) and Vice Presidents (Karl Siilivask and Juozas Algirdas Krikštopaitis).

In the reporting period, several history-of-science focused books with contributions by members of the Union were published. Most important among them were:

- *Historiae Scientarum Baltica*. Abstracts of XX Baltic Conference on the history of science (157 pp.);

- Questions of history of Tartu University XXXI. Proceedings of Museum of History of Tartu University (226 pp.);
- Estonian studies in the history and philosophy of science. Compiled by R. Vihalem (300 pp.);
- Lea Leppik. Rector Ewers. Monograph. Estonian Historical Archives (351 pp.);
- Martin Hallik. The contribution of faculty and students of Tartu University in the Humanities in oriental subjects (1802–1940) (263 pp.);
- Vahur Mägi. Comely and sharp: Developments and directions of Estonian engineering concepts (252 pp.);
- Life and work of Dr agr prof emer Elmar Järvesoo (1909–1994). Compiled by L. Koobas (224 pp.);
- Verbum habet Sakala: Omnibus volume of Student Corporation Sakala 1999. Compiled by T. Kulmar (376 pp.);
- Forestry related journals and magazines in Estonia. Compiled by T. Meikar (232 pp.);
- Department of forestry of Estonian Agricultural Academy in 1951–1958. Compiled by M. Margus, T. Meikar (186 pp.);
- Estonian Forest Society X: 1991–2001. Compiled by T. Meikar (59 pp.).

ESTONIAN SCIENTIFIC SOCIETY IN SWEDEN

Associated with Estonian Academy of Sciences

19.03.1999

Founded 1945

Membership: 150 active members and 7 honorary members

Address: c/o I. Paljak, Backvindeln 27, 129 42 Hägersten, SWEDEN

South-Swedish Division: c/o I. Martinson, Blåmesvägen 40,
24735 Södra Sandby, SWEDEN

Website: <http://www.estemb.se>

Chairman: Ivar Paljak, Tel:/Fax + 46 46 8 646 5624, paljak@swipnet.se

Secretary: Diana Krull, Tel: + 46 46 8 162 852, diana@ling.su.se

Chairman of the South-Swedish Division: Indrek Martinson,

Tel: + 46 465 7308, indrek.martinson@fysik.lu.se

Estonian Scientific Society in Sweden brings together the Estonian scientists residing in Sweden and constitutes a forum, where they can present their works.

The Society organised in Stockholm its annual meeting, seven meetings with papers and one excursion. At the annual meeting Doctor of Medicine Katrin Pütsep delivered a paper “Human body itself produces antibiotic”. The meetings with papers focused on links of forest industry and environment, as they

used to be and as of now; on evolution of cell; on 1944 Estonian refugees to Sweden; on research in phonetics etc. The paper “Development of Saint Birgitta to a towering personality” was also meant to highlight the inauguration of the new Birgitta convent building in Pirita. The public ceremony held to commemorate the 82nd anniversary of Tartu University heard out the speech by Professor Emeritus of Tartu University Helmut Piirimägi ”Establishment of the ethnic university – a juncture on the path of the Estonian people to becoming a cultural nation”. There was organised an excursion to the Wine and Distilleries’ History Museum in Stockholm, founded by PhD Helmut Hagar, to hear about the history of production and consumption of wine and spirits.

Put out of print was the Year Book of the Society XII, comprising basically the catalogue of historical maps of Estonia accompanied with reproductions. The book also includes articles and bibliographies about Professors Hans Kaur and Gustav Ränk and the eulogies to reputed scientists of Estonian descent, residents of Sweden.

The South-Swedish Division in Lund heard out, at its annual meeting the paper by former Director of Lund History of Cultural Museum Anders W. Mårtensson “*Fred R. Allik – en minnestekning*”. Speaking at two meetings with papers were Foreign Members of the Estonian Academy of Sciences: Els Oksaar “Ethnic language and scientists”, Indrek Martinson “Several outstanding women physicists”. At the event, held to celebrate the 82nd anniversary of Tartu University, Toomas Tiivel delivered a paper “Possibility of theoretical biology and its developments in Estonia”.

ESTONIAN LITERARY SOCIETY

Associated with Estonian Academy of Sciences 23.01.2001

Founded 1907

Membership: 249 members (including 9 life members, 6 honorary members and 19 trustees)

Address: Vanemuise 19, 51014 Tartu, ESTONIA

E-mail: eks@kirjandus.ee

Chairman: Peeter Tulviste, Tel: + 372 50 33 659

Scientific Secretary: Katrin Raid, Tel: +372 7 427 079

The statutory goal of the Estonian Literary Society has been, since its inception in 1907 and also after its restoration in 1993 “the promotion of literature, science and arts, comprehensive study of the land and people of Estonia” and making the results of its work available to the public.

At present, the Society pursues its activities mainly in the fields of literature and literary criticism, and also in neighbouring areas (aesthetics, bibliology, teaching of literature etc.). An important task of the Society is to unite the scientific, pedagogic and popularising approaches. The activities of the Society are aimed at all people concerned with above areas, including the school students, university students and schoolteachers everywhere in Estonia.

The General Committee of the Year of the Estonian Book was attached to the Society in 2000-2001. The subcommittees of the Year of the Estonian Book involved hundreds of institutions and thousands of people; the trustees of the committee will stay with the Society.

A number of papers were presented at the traditional annual review meeting of the Society: on the Estonian prose of 2000 by Janika Kronberg, on poetry by Karl Martin Sinijärv, on drama by Madis Kolk, on school children patriotic poetry competition by Kadri Tüür.

The Tartu Spring Literature Day “Forward to the Past” made an attempt to make sense of the Soviet past in the present context, as seen by people of different professions and generations.

The seminars on literary criticism, held by the Society were continued in 2001. 12 lectures were delivered. The seminars discussed new trends and authors in both Estonian and foreign literatures (Finnish, Latvian, Lithuanian, Canadian, British, French literatures) and theory of criticism. Such seminars provide the young critics with an opportunity to present their ideas, and draw students to participate in the activities of the Society.

In co-operation with Karl Ristikivi Museum, the Society held a series of seminars “Feminist theories – to whom and why?” (7 papers). A series of events “Night-time story telling at Ristikivi’s” was started at the museum this year. The theory of feminism was discussed at the 10th Nüpli spring school “Columbus was a woman ...”, organised together with the Estonian Literary Museum.

In co-operation with the Vanemuine Society, a meeting was held on the subject “The trends in first names among the nations of the Baltic States in the 20th century”.

The Society also held its first video night, where Enn and Helga Nõu demonstrated films from their video archive (Estonian authors) and provided comments on the films.

The Society organised an exhibition “The classified books in Estonia 1525-2000” at Tartu University Library, showing materials from the collections of the library, the Estonian Literary Museum, the members of Tartu Bibliophiles’ Club, and other bibliophiles.

On 7th December, the Society organised a commemorative evening in honour of one of its restorers and honorary members Professor Kaljo Villako (19.05.1919–22.10.2001), and presented the 2nd volume of his memoirs “Travel in Time”.

The Society published the third volume of Jaan Roos’ daybook “Through the Red Night” (edited by Jaan Isotamm).

In 2001 the Estonian Literary Society became associated with the Estonian Academy of Sciences.

ESTONIAN LEARNED SOCIETY 
ÕPETATUD EESTI SELTS

ASSOCIATED WITH ESTONIAN ACADEMY OF SCIENCES
23.01.2001

Founded 1838

Membership: 87 active members, 11 honorary members

Domicile: Lossi 3, Tartu, ESTONIA

Website: www.ut.ee/OES

Chairman: Tiit Rosenberg, Tel: + 372 7 375 650; tiit@loss.ut.ee

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The Estonian Learned Society is a society for research in the humanities operating at the University of Tartu. The Society’s objective as declared in its historical articles of association is “to enhance awareness of the past and presence of the people of Estonia, of its language and literature and of the land settled by the Estonians”. The Society, founded in 1838, was closed in the context of the Stalinist battle against “bourgeois nationalism” in 1950 and re-established in 1988. The goal of the Society is to present the results of research in subjects related to Estonia and also to provide corresponding opportunities for the future scientists – MA and PhD students.

The main form of activity is academic lectures/presentations numbering a total of 1194 from 1838 to January 2002. In 200113 scientific papers were delivered in the following areas: history (6), archaeology (2), genetics, literary criticism, geography, linguistics and history of science (total 1). Most popular and well-attended were the papers by Prof. Sulev Vahtre on the historiography of Medieval Livonia and by Heiki Valk about archaeological sites as reflected in oral tradition. The presentations were attended by a total of 314 visitors (incl. 121 members of the Society).

The highlight in 2001 was the association of the Estonian Learned Society with the Estonian Academy of Sciences. In 2001, two issues of the Society's journal were published: Silvia Laul's monograph on the genesis of Iron Age culture in South-Eastern Estonia (Proceedings of the Estonian Learned Society, vol. VII; 279 pp.) and a collection of articles entitled *From the end of prehistory to the dawn of independence*, dedicated to Prof. Sulev Vahtre's 70th birthday (417 pp.).

Work on the fourth volume of "History of Estonia" (ed. by Prof. Sulev Vahtre and Ass. Professor Mati Laur) was completed, and the manuscript was delivered to the Ministry of Education. The Society began compiling the fifth volume of the book. Under an agreement with the Institute of History, the latter returned to the Society its archaeological collections from the Tsarist period. The finds were deposited in the archaeological collections of Tartu University. The Society's library, which from 1950-1990 was affiliated with the Estonian Academic Library, is currently deposited in the Library of the University of Tartu.

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APPENDIX

RESOLUTION OF THE 8TH BALTIC CONFERENCE ON INTELLECTUAL CO-OPERATION

Tallinn, Estonian Academy of Sciences
16 June 2001

The conference sustains the pre-war tradition (1935-1940) of regularly convening intellectuals of the Baltic Sea region to discuss common issues. The tradition was revived by the 7th Baltic Conference on Intellectual Co-operation in Riga (1999). The conferences have pursued and do pursue the one main aim: to promote co-operation among the Baltic countries in better comprehending of our common history, mutual culture, economical and political situations to give an impetus for joining efforts in tackling our current tasks.

The Conference was held under the auspices of the President of the Republic of Estonia Lennart Meri, organised by the Estonian Academy of Sciences, supported by the Estonian Ministry of Foreign Affairs and the Embassy of Latvia in Estonia. The Ambassadors of the Republics of Latvia and Lithuania, politicians, scholars and scientists, representatives of cultural organisations and educational institutions of Finland, Latvia, Lithuania, Norway, Sweden and Estonia attended the Conference.

A meeting of the delegations of the three Baltic Academies of Sciences was held in conjunction with the Conference, in order to discuss specific topics of collaboration in R&D.

The 8th Baltic Conference on Intellectual Co-operation focussed on the following main themes:

- the message of the Baltic states to the World: raising the World awareness of our historical experience;
- research strategies in small countries;
- the humanities during the past decade.

The 14 papers read and comments during the discussions gave a good overview about the current situation, crucial problems and predictable future trends in three Baltic states and in Finland. It became obvious that a huge progress has been made in democracy, in economic advancement and in many fields of cultural life, including intellectual co-operation of the academic communities of the Baltic countries. Nevertheless, special measures are expedient for securing smooth continuation of desired development.

The conference emphasised that the geographical closeness, common history, largely similar status in Europe (and world) today, shared aspirations, compa-

rable tasks to be shouldered, participation in the same international structures active in the Baltic Sea area – all those are favourable preconditions for a successful co-operation among the three Baltic nations. Usage of these possibilities, especially in the intellectual sphere, would be in line with the united world policy and would allow conveying to the world a strong message about the co-operating Baltic states.

Summarising the discussions, the 8th Baltic Conference on Intellectual Co-operation deems it important to:

- enhance co-operation among the countries around the Baltic sea, in education, science and in the sphere of culture in particular;
- support the endeavours of the Baltic states to join the European Union;
- promote effective measures for building a distinct Baltic component into educational programmes (history, geography, literature, languages of the other Baltic countries) from grade school on and followed by different adult teaching methods, including online instructions, publication of manuals, etc. Essence of emotional aspects (e.g. excursions to the neighbours, joint summer camps for pupils) of school education should also be stressed;
- invite colleagues from Scandinavia and Poland to participate in the future conferences with the aim to transform them into conferences on intellectual co-operation of the Baltic Sea region. The conference recommends to start preliminary consultations with necessary authorities;
- continue efforts to enlarge the circle of organisers by involving the Baltic Assembly, universities, writers and artists unions, etc.;
- propagate the journal “*Revue Baltique*” as a medium for Baltic (*sensu lato*) co-operation. The conference asks the Baltic Council of Ministers to support the revival of the journal.

The Conference requests the Lithuanian Academy of Sciences to take the responsibility for organising the 9th Baltic Conference on Intellectual Co-operation in 2003.

The editors extend their thanks

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