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Annual Report



Stiftelsen

RIKSBANKENS JUBILEUMSFOND

The Bank of Sweden Tercentenary Foundation

Annual Report
1993

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1993 in brief

- A sum of SEK 60.5 m. was disbursed as research funds (1992: SEK 72.3 m.).
- The total number of research projects financed was 159 (1992: 196).
- Practically one-fourth of the amounts granted were allocated to 35 new research projects (5 fewer than in the preceding year).
- Of the research funds disbursed, SEK 9.6 m. covered value-added tax and overhead charges at state universities and colleges (1992: SEK 13 m.).
- Rejected applications (418) represented a total requested sum of SEK 295 m. (1992: SEK 230 m.).
- Competition for research funds continued to be very keen. It was possible to award grants covering only 4.6% of the amounts requested for new projects.
- The Board of Trustees thanked Nils-Eric Svensson for his services, on his retirement, partly on February 10 by presenting the "Nils-Eric Svensson Fund" – worth SEK 383,000 at year-end – and partly on March 24 by holding the international symposium entitled "Research Funding and Quality Assurance". The symposium book was presented to Nils-Eric Svensson on the occasion of his 70th birthday on November 7, 1993.
- Richard F. Cowburn, Ph.D., was selected as the first recipient of the three-year post-doctoral scholarship from Erik Rönnerberg's endowment for scientific studies at the Karolinska Institute in the area of ageing and age-related diseases.
- **Collegium Budapest** was inaugurated on June 16, 1993. Establishment of this international research centre in Hungary was decided by the Foundation, together with a number of European countries and funds.
- The property designated Trädgården 2 at Tyrgatan 4, Stockholm, was acquired on July 6, 1993 for the purpose of accommodating the Foundation office as of June 1, 1994.
- The *Riksdag*, or Swedish parliament, decided on June 3, 1993 to donate SEK 1,500 m. from the dismantled wage-earner funds to support **research in the humanities and social science**. The government decided on December 2, 1993 to hand over the donated funds to the Foundation.
- A new preparatory committee, with an international membership, for assessing applications for grants in the area of the humanities and social science, was appointed at the Board meeting on December 9, 1993.

The Foundation's tasks, inception and aims

The Bank of Sweden Tercentenary Foundation (Riksbankens Jubileumsfond, RJ) is an independent foundation with the objective of promoting and supporting scientific research.

A central task of the Foundation is to manage its assets in such a way that the economic basis of its operations for supporting research is secured for the future.

The Foundation was instituted in 1962 by means of an endowment from the Bank of Sweden, which wished thereby to commemorate its tercentenary in 1968 and, at the same time, to advance "an important national cause". The annual return on the anniversary donation was to be used for promoting scientific research linked to Sweden.

In the guide-lines and regulations that were drawn up for the independent foundation, it was recommended that the activity should be given "a substantial measure of flexibility" and that "no research area should be denied the possibility of receiving funds from the Foundation". Initially, the activity was

to be focused on such research as is aimed at adding to the knowledge about the effects that technological, economic and social changes have on society and on individual citizens.

This recommendation has guided, and continues to guide, the activities of the Foundation.

The Foundation's statutes were adopted in December 1964. The present statutes (adopted on January 1, 1988) state, for example,

that priority shall be given to those areas of research whose funding requirements are not adequately met in other ways;

that the Foundation's funds shall be used especially for supporting major, long-term research projects;

that special attention shall be paid to new research requiring prompt, vigorous action;

that the Foundation shall seek to promote contacts with international research;
and

that the Foundation's funds shall be managed with the objective of maintaining a long-term capacity for awarding grants for the research purposes stated and that the requirements of a favourable return and a good spread of risks shall be ensured through a suitable composition of the Foundation's assets.

Two objectives were then defined for the financial activity:

1. *that the research grants shall, if possible, be upvalued each year approximately at the same rate as the consumer price index;*
2. *that, as a prerequisite for realization of the first objective, the necessary portion of revenues must be added each year to the Foundation's assets so that they maintain their real value.*

Another objective stated for the next few years is that annual grants for research should be equal to about 3% of the capital at the beginning of the same year.

The Bank of Sweden Tercentenary Foundation promotes and supports **advanced research** in widely different areas.

In the first place, the Foundation gives priority to those areas whose requirements are not met naturally in other ways, for example, through state research councils and other authorities, each of which, of course, covers a relatively limited sector. Thus, for example, the Foundation is interested in **multidisciplinary or interdisciplinary research**. The catalogue of activities financed to date also shows examples of many major, long-term projects, in which researchers from various faculties, localities or countries co-operate. The Foundation's resources should be regarded primarily as a complement, and not as an alternative, to other resources available for advanced scientific research in Sweden.

The first grants were awarded in the autumn of 1965. Since then, a sum of just over SEK 2.5 bn (in 1993 monetary value) has been awarded for scientific research. The Foundation's assets at year-end 1993 amounted to SEK 2.2 bn, which, in real terms, is equivalent to the basic endowment of SEK 250 m. in 1962.

Managing Director's comments

My first year as managing director of the Bank of Sweden Tercentenary Foundation has been exceptionally interesting and eventful in all respects. First and foremost, I would like to express my great thanks to my predecessor, Nils-Eric Svensson, who spent three months, in an extremely interesting and stimulating way, in helping me to be gradually "broken in" and become prepared for the task of representing the Foundation.

In terms of official research policy, 1993 was a remarkable year, since very large resources were supplied in that year to the research community by decision of the *Riksdag* (Swedish parliament). Despite this, in 1993, the Foundation disbursed less than ever before to support Swedish research. Only 4.6% of the total amount sought for new projects was granted by the Foundation (1992: 6.2%; 1991: 7.7%; 1990: 8.7%). In 1993, the *Riksdag* decided to utilize SEK 10 bn from the dismantled wage-earner funds to strengthen the base for research and development in Sweden. This decision on research policy enabled the conditions to be created for larger and more concentrated efforts in areas where the highest international standards are attainable. Two new research foundations were instituted and are in the process of being built up. One of the new foundations is for strategic research in natural science, technology and medicine, and the other for strategic environmental research (MISTRA).

Instead of creating a third research foundation for research in the humanities and social science, affiliated to the Bank of Sweden Tercentenary Foundation, the *Riksdag* provided for a sum of SEK 1,500 m. to be donated to the Bank of Sweden Tercentenary Foundation in support of research in the humanities and social science.

The purpose of the foundation for research in the humanities and social science, as stated in the government bill "Research in the Front Line" (no. 1992/93:171), is very similar to the recommendation made in 1962 for the activity of the Bank of Sweden Tercentenary Foundation. According to the bill, the humanities and social science provide "the theoretical and methodological conditions for communicating and interpreting important social processes, nationally and internationally" (page 18). Thus, this emphasis on research in the humanities and social science accords well with the activities of the Bank of Sweden Tercentenary Foundation, which has allocated approximately 70% of its annual grants to these areas in recent years.

In the summer of 1993, the Board of Trustees of the Foundation undertook the assignment of preparing proposals for regulations governing the activity that is to be financed by means of the donation for research in the humanities and social science. A report on this assignment was submitted in October 1993.

An important point in the preparatory work for reception of the donation was clarification of the relationship between the fund for research in the humanities and social science and the present activities of the Bank of Sweden Tercentenary Foundation, since the bill and the parliamentary decision required the donation for research in the humanities and social sciences to be managed such that it could be accounted for separately from other funds at the Foundation's disposal. In this connection, the Board of Trustees has presented a model for joint administration and separate accounting that is in line with the government's wishes. This will enable efficient and successful asset management as well as a timely, concentrated and specific contribution to research in the humanities and social science.

Another very important decision made as a result of the provision of new resources is, in my opinion, that the Bank of Sweden Tercentenary Foundation — at any rate during the period of activity of the other two foundations — will also pay added attention to the area of the humanities and social sciences in its efforts related to its basic endowment. However, it is important to emphasize that the Foundation will also be able in the future to support projects and programmes in the humanities and social science that are linked to natural science, technology and medicine.

I am very glad to be able to state that it was possible to conduct the preparatory work for reception of the donation under conditions of total unanimity within the Board, its finance committee and the preparatory committees. In this way, a good start has been made to ensure that the Foundation will have a distinct profile for the promotion of research in the humanities and social science in the future.

The government did not raise any objections to the Foundation's proposal and decided on December 2, 1993 to hand over the donation of SEK 1,500 m. to the Foundation for management and use for research in the humanities and social science.

Apart from the organizational work, I would like to point to two activities that were of indirect importance for the preparatory work for reception of the new donation. First and foremost, the international seminar, "Research Funding and Quality Assurance", dedicated to Nils-Eric Svensson. This seminar provided an opportunity for discussion of research financing, the role of independent foundations in this connection and how the work of quality assurance should be conducted.

The second activity which I would like to mention was the visit paid by the Board during August 23-25, 1993 to the Lule River valley in order to have the possibility of making a deeper analysis of an interdisciplinary and multidisciplinary project. The project organization and work model were the centre of interest. In other words, the examination of the past was geared to work in the future.

As stated by way of introduction, despite relatively successful financial activity, the Foundation's capacity as an agency for supporting research has deteriorated as a result of the national and international economic trend. Therefore, in order to maintain the real value of the assets in the long term, research grants were cut during 1993 from just over 4% to about 3% of the capital at the beginning of the year. This level seems reasonable over a number of years in view of the low growth of the economy. This guiding principle for financial management is important in order to secure the award of grants for research at universities and colleges in the long term.

The number of applications for funds for new projects or contributions to research programmes has not fallen in pace with the deterioration in the Foundation's capacity for disbursing funds. On the contrary, applications continued to increase. Many research projects, advanced and important by international standards, have not materialized as a result or have been strongly undersupplied with research grants. One may now question the logic of the process which entails that, each year, a large number of researchers spend a great deal of time in preparing outline applications, which are scrutinized minutely by the preparatory groups, with the final result that only 5-10% can be awarded relatively small annual grants.

I therefore think that there are strong reasons for devising new forms for research-supporting activities. In this connection, there is reason to recollect some guiding points in the Foundation's statutes and in the official notice announcing the donation of the fund for research in the humanities and social science:

that the fund shall be used specially for supporting large and long-term (preferably interdisciplinary) research projects;

that the training and recruitment of researchers shall be improved;

that the establishment of national and international networks, as well as national and international mobility of researchers and mobility between universities/colleges and other activities, shall be promoted.

According as competition for public research funds becomes more intense, the importance of independent, asset-managing research foundations is also increasing. In this connection, a foundation like the Bank of Sweden Tercentenary Foundation constitutes, through its special composition of members of parliament, researchers and financial management experts, a very attractive complement to the existing state research-financing councils and the sectorially focused research agencies. Indeed, it is highly reasonable to entertain hopes that the relative importance of the Foundation as a financier of research will gradually grow during the remainder of the 1990s.

To conclude, I would like to mention that, in one respect, the Foundation has benefited from the economic downturn and the attendant slump in real-estate prices. During the summer of 1993, the cost of living in a house of our own became entirely comparable to living in rented premises in the future. Under these circumstances we acquired a suitable object in the property block Trädgården 2 at Tyrgatan 4 in Lärkstaden, Stockholm. The building was constructed in 1909-10 as a single-family dwelling and, according to the City Museum, is of "great cultural historical value". In addition, Lärkstaden is a part of Stockholm that is "of national interest for the preservation of ancient monuments." Accordingly, the Stockholm County Administrative Board has given the Foundation a contribution towards reconstruction and restoration of the garden. Our office will move into its new home during June 1994.



Dan Brändström

Operations in support of research

The Bank of Sweden Tercentenary Foundation supports advanced research in the form of project grants to individual researchers (or groups of researchers) who have applied for funds.

Ever since the inception of the Foundation, a certain preference has been shown to research in social science and the humanities. Nearly 50% of the available funds were allotted to social science projects in 1993, 20% to the humanities and the remainder to research in medicine, natural science and technology. In view of the new contribution received from the former wage-earner funds in support of research in the humanities and social science, the Foundation's profile in these fields will acquire an even more distinct stamp.

In the first place, priority is given to projects whose requirements are not met normally in other ways, for example, by means of grants from state research councils or other public authorities, each of which operates within relatively well-defined sectors. The Foundation is interested, among other things, in multidisciplinary or interdisciplinary research and projects in which researchers from different disciplines, faculties, localities or countries collaborate. The Foundation's catalogue of grants awarded to date shows many examples of precisely such research projects.

Procedure

The Board of Trustees makes decisions about the award of grants by the Foundation. Incoming applications have previously been assessed and ranked in order of priority by one or generally more committees (*preparatory committees*). Board members and deputy members as well as external scientific experts serve on each of these committees. As a rule, the applications have also been assessed by one or more external experts in Sweden or abroad.

Each application is assessed in the first place according to international standards as well as on the basis of intra- and extra-scientific criteria. Two main questions are pursued thoroughly before a decision is taken:

- Is the proposed research a case of advanced research?
- Is the research in question of importance to society?

Decisions about grants for new projects are taken in two stages:

1) First, assessments are based on applications presenting brief overviews, or **project outlines**. The preparatory committees then select the applications which are considered to show the highest scientific quality, to be of very great interest to the Foundation, and to have been prepared by scientists adjudged to be competent and suitable for conducting the project in question. These researchers are then given an opportunity to submit complete applications. Other applications (project outlines) are rejected.

2) Second, **complete applications** are assessed and arranged in order of priority (as a rule after examination by external experts) before the final ruling by the Board.

Applications relating to research that is ethically questionable are evaluated by observing the same criteria and following the same method as the state research councils.

In certain areas, which are regarded as important but which have not received sufficient attention, the Foundation sometimes appoints special *sector committees*. The task of these committees is to review research needs, encourage scientific research and promote exchange of information. These committees consist of researchers from disciplines of importance for the area as well as representatives of disciplines of importance to society. The activities of these committees may be described as competent work preparatory to research. These activities cease when sufficient attention has been gained from the research community and/or from the authorities which are responsible for providing resources on an ongoing basis to the area in question.

The Foundation also arranges conferences or symposiums (occasionally in collaboration with some other research-promoting agency in or outside Sweden) for the purpose of presenting or reviewing the state of knowledge in a certain area or for identifying research needs. The Foundation has an extensive range of contacts with foreign foundations, which, in recent years, have predominantly been European organizations.

Research grants

The Foundation approved 159 project grants during the year as well as travel grants, additional salary costs, administrative fees, value added tax, etc., totalling SEK 59.2 m. (table 1, page 46). As a rule, the majority of these grants were administered by state universities and colleges. In addition to an overhead charge of 13.6%, grants disbursed after July 1, 1991 incur a supplementary charge of nearly 8.7% for value added tax, calculated on the project grant. For new grants, which are administered by state university departments under the Ministry of Education and Cultural Affairs, the Foundation must now also expect to pay a **total supplementary charge of 23.5%** on the amounts calculated for the research projects per se.

If fees for vetting by experts and costs of providing certain information are added to the total in the table, the Foundation's grants for research amounted to SEK 60.5 m. (see note 7, page 25).

New projects for which grants were approved during the year are described in a special section headed "New research projects in 1993" (pages 33-44).

Approved grants are utilized in accordance with special conditions that are stated in the contract with each recipient. As previously stated, the majority of grants are administered by state educational institutions, which also act as the employers of the persons paid from the grants.

In the section entitled "Statistical information on research grants" (pages 45-47) certain data are reported in tabular form concerning the applications dealt with and the grants awarded.

Practically one-fourth of research grants approved in 1992 were awarded for new projects (table 2, page 46).

Of the combined amount requested for *new* projects, it was possible to award 4.6% only. The corresponding proportions during the preceding four years are shown in table 3 (page 47). Competition for grants from the Bank of Sweden Tercentenary Foundation for new projects has intensified considerably in recent years. Judging from available information, the competition is tougher than in the case of any other agency for supporting research.

In constant monetary value, the average size of the *new* grants approved was somewhat larger than in the past few years. On the other hand, the size of *continuation* grants has decreased. However, if a deduction is made for overhead charges and value added tax, considerably smaller average amounts have been awarded direct to the research projects.

Exchange of information, follow-up, etc.

Many of the research projects supported by the Foundation shed light on problems of general social interest. Thus, it is important that, if possible, the findings should also be made known to society outside the research community and be the subject of discussion, critical review and utilization. Agencies that support research can, and should, take part in facilitating such exchange of information. Several activities of a national as well as an international character were carried out during the year with a view to following and spreading knowledge about the research that is supported and to stimulating an exchange of information about research results between various groups in society. Some examples will be given.

A few meetings were arranged by *the sector committee for research on parliamentary function and procedure* in the Parliament Buildings. The meetings were well attended.

- On April 13, **Lennart Schön**, Professor of Economic History at the University of Lund, gave a talk in the sector committee's lecture series entitled SOCIAL MATTERS IN A RESEARCH PERSPECTIVE. The title of the talk was "Sweden in international market integration in a historical perspective".
- On December 1, a seminar was organized on the theme "Election systems in a comparative light". The election system in the U.K. was described by Professor **Bo Särilvik**, University of Gothenburg; the Danish system by Professor **Jørgen Elklit**, University of Aarhus; the Finnish system by Professor **Dag Anckar**, Turku Academy; the Norwegian system by Professor **Henry Valen**, University of Oslo; and the Belgian, French and German systems by Assistant Professor **Olof Pettersson**, University of Uppsala. **Bertil Fiskesjö**, Third Deputy Speaker of Parliament, was responsible for introducing a discussion. **Ingegerd Troedsson**, Speaker, conducted the seminar.

In addition, the sector committee arranged a meeting of researchers on April 28, 1993 for a review of ongoing research projects linked to the sector committee. The meeting was held in the conference room of the Parliamentary Standing Committee on the Constitution and was opened by the **Thage G. Peterson**, Chairman of the Standing Committee. In this connection, it should be stated that the sector committee gave Assistant Professor **Björn von Sydow** the assignment of writing a summary analysis of "Swedish parliamentarism".

The sector committee for comparative research on social changes arranged a half-day seminar on February 17, 1993 on the theme "What determines our way of life?" The questions primarily discussed on the basis of current research were how living habits arise, how they are maintained and how they can be broken. The section on "Debut of living habits" was opened by Professor **Per-Olov Sjöden**, University of Uppsala, with Professor **Grete Botten**, University of Oslo, as opponent. **Anders Ewerman**, from Ewerman Business Intelligence AB, Stockholm, presented "Maintenance of habits"; the opponent was Professor **Leif Aarö**, University of Bergen. The final part of the series, "Breaking living habits", was introduced by **Inger Brännström**, researcher at the University of Umeå; the opponent was **Finn Kamper-Jørgensen**, Director, Danish Institute of Clinical Epidemiology. Prior to a lively general discussion presided over by the chairpersons, ex-Cabinet Minister **Gertrud Sigurdson** and Professor **Sven-Olof Isacson**, Members of Parliament **Barbro Westerholm** and **Bo Holmberg** each made a contribution.

In addition, the sector committee arranged a small symposium on April 29, 1993 on the theme "Register data in research". The question primarily dealt with, from a Swedish and a European perspective, was the possibility of reconciling the needs of individuals for protection of privacy with research interest in gaining access to computerized information about individuals, especially such information as is important for longitudinal research. The discussion was opened by Deputy Assistant Under-Secretary **Erik Göransson**, Ministry of Justice, and **Jørn Olsen**, Professor of Epidemiology and Social Medicine, University of Aarhus. The latter gave an account of the Danish experience of EC regulations in this area.

Apart from the sector committees' public meetings, the Foundation collaborated with the Royal Academy of Music in arranging a symposium day, on October 6, on "Wilhelm Stenhammar and his times". The symposium was dedicated to **Bo Wallner** in connection with his 70th birthday. In the spring of 1991, with financial support from the Foundation, Bo Wallner published a biography of Wilhelm Stenhammar in three parts – the composer, the pianist, and the conductor (Foundation project no. 84-259). The morning of the symposium day was devoted to "Life and work", i.e., the renaissance of biographical writing. With Professor **Inge Jonsson**, chairman of the Foundation, conducting the meeting, contributions were made by **Tone Bengtsson**, pro-

ducer, **Bo Carpelan**, author, **Jørgen I Jensen**, university lecturer, and Professor **Magnus von Platen**. The afternoon session of the symposium was devoted entirely to Wilhelm Stenhammar and his times. Bo Wallner's presentation of the Stenhammar biography was made within a framework of music. Professor **Thure Stenström** concluded the proceedings with a lecture on the state of Swedish culture at the turn of the century. Among the invited guests were the members of the Parliamentary Standing Committees on Cultural Affairs and Education.

In 1988, in order to encourage Swedish researchers to write articles for the popular science press, the Bank of Sweden Tercentenary Foundation instituted two prizes for the year's best articles in the magazine *Forskning och Framsteg* (Research and Progress) in the following fields:

*Social science – Behavioural science – Humanities
and
Natural science – Medicine – Technology*

The prizes (SEK 25,000 each) for the best articles in 1992 were awarded on March 25, 1993 at a meeting attended by the Board of Trustees and a number of specially invited guests to

1. **Kajsa Ekholm-Friedman**, Assistant Professor of Social Anthropology, University of Lund, for her article "Därför sprids HIV i Kongo. Sex mot pengar socialt accepterat" (That is why HIV is being spread in the Congo. Sex for money socially accepted), and
2. **Björn Sundelius**, Acting Professor of Astrophysics, University of Gothenburg, jointly with **Karl Johan Donner**, Assistant Professor of Astronomy, University of Helsinki, for their article "Galaxernas spiralarmar – spår efter krockar i rymden" (Spiral arms of the galaxies – traces left by collisions in space).

The prize-winners were selected by members of the Foundation's Board of Trustees – in the former case, by Lena Hjelm-Wallén, Berit Löfstedt, Lars-Göran Stenelo (chairman) and Sture Öberg; and, in the latter case, by Barbara Cannon (chairwoman), Viola Furubjelke, Per Björntorp and Rune Rydén.

At the same prize ceremony, the recipients of the Foundation's Research Prize for German Scientists, within the framework of the mutual agreement with the Alexander von Humboldt Foundation, were also honoured. Three prominent German researchers were enabled to conduct research at institutions in Sweden during the year. The Bank of Sweden Tercentenary Foundation's research prize for 1993 was awarded to:

Professor Wolfgang Götze, Department of Theoretical Physics, Technical University of Munich, for research at the Department of Theoretical Physics, Chalmers Institute of Technology, Gothenburg.

Professor Hermann O Handwerker, Department of Physiology and Biocybernetics, Friedrich-Alexander University of Erlangen-Nuremberg, for research at the Department of Clinical Neurophysiology, University of Uppsala.

Professor Klaus K Unger, Department of Inorganic and Analytical Chemistry, Johannes Gutenberg University, Mainz, for research in analytical chemistry at the University of Lund.

Professors Handwerker and Unger received their diplomas at the prize-giving ceremony in March, while Professor Götze received his diploma in connection with the Board meeting on October 21. On that occasion, **Bernd Henningsen**, Professor of Scandinavian Studies, Department of Germanic Studies, Humboldt University, Berlin, also received the certificate for his research prize. He was declared a prize-winner as far back as 1991, but for various reasons was not able to receive his prize earlier. His research visit will be made to the Swedish Collegium for Advanced Study in the Social Sciences (SCASSS), University of Uppsala.

Activities were started at the international research centre in Hungary, **Collegium Budapest**. This centre, with about 20 researchers, is intended to become an intellectual

meeting place for researchers from both East and West. Research is focused primarily on the legal systems of Central and Eastern Europe, the pattern of migration, matters related to refugees and minorities, problems related to the transition from a centrally planned economy to a market economy, environmental matters, etc. The centre was inaugurated solemnly on June 16, 1993 by the then prime minister of Hungary, József Antall, in the presence of Presidents Árpád Göncz, Hungary, and Richard von Weizsäcker, Germany, among others. The Swedish government was represented by Ambassador Sten Strömholm. The Foundation was represented by Inge Jonsson and Dan Brändström. Professor Nils-Eric Svensson was previously the Foundation representative on the Board of Collegium Budapest.

Through its participation in the European Foundation Centre in Brussels, the Foundation was able to widen its contacts with corresponding agencies in Eastern Europe, many of which are in the process of being developed. In particular, contacts were established with the newly formed research foundations in the Baltic countries. Otherwise, informational exchange proceeded as usual with foreign research foundations.

As in previous years, several of the recipients of grants from the Foundation were allotted funds to enable them to present and discuss their projects and research results at foreign institutions or at international scientific symposiums.

Since 1966, the Foundation has taken part in financing the Nobel Foundation's symposiums. This was initially done by providing annual grants. The symposium activities can now be financed entirely by means of the return on a special symposium fund in the Nobel Foundation. A start was made in 1979 to build up this fund through a basic endowment in the form of a one-time three-year grant from the Bank of Sweden Tercentenary Foundation, through contributions and royalties from the Nobel Foundation's own informational activities and through four annual grants from the Knut and Alice Wallenberg Foundation. The symposium activity is conducted by a committee comprising representatives of the five Nobel Committees, the Economics Prize Committee, the Bank of Sweden Tercentenary Foundation and the Wallenberg Foundation, with the president of the Nobel Foundation as chairman. More than 90 Nobel symposiums have been held up to now. They have been devoted to areas of scientific breakthroughs of central cultural or social importance and have acquired a very high international reputation.

As before, the Foundation's preparatory committees paid a number of visits to grant recipients. Apart from reviews and discussions related to individual research projects, the committee members try on such occasions to acquire knowledge about the conditions and opportunities prevailing in research and researcher training.

Individual researchers or groups of researchers are often invited to the Foundation's offices to present their ongoing projects and have discussions. At Board meetings, the scientists among the members regularly present contemporary areas of research.

As a rule, once during the term of office of the Board, the Board members, accompanied by all preparatory committees, pay a visit to the site of a project, which allows a more thorough insight into the research work enabled by support from the Bank of Sweden Tercentenary Foundation. A project visit of this kind was paid during August 23-25, 1993 to the Lule River valley. The project visit started on the morning of August 23 with a visit to the Luleå College and Institute of Technology. The principal, **Torbjörn Hedberg**, conducted the presentation of the activities at the institution. A visit was paid in the afternoon to the Survey Office and the regional office of the Central Board of National Antiquities. The visit was concentrated largely on the villages of Vuollerim and Jokkmokk.

The Lule River valley project at the University of Umeå was conducted by means of grants from the Bank of Sweden Tercentenary Foundation during the period 1980-1984. Certain operations proceeded over a longer period. The project, which was interdisciplinary and multidisciplinary, involved participants from the fields of archae-

ology, ecological botany, economic history, ethnology, human geography and Scandinavian languages. The total grant was about SEK 5.5 m.

The results are available in a series of publications, listed in a bibliography in 1993. The overall aim of the project was stated in a supplementary statement in August 1979:

The object of the investigation is to clarify the interplay between utilization of resources and social development in Upper Norrland and to study the causes of the changes over a long period. The project aims to establish the basic features of the sequence of change on a generalization level, which will make the results applicable to other areas as well, especially in Northern Scandinavia.

During June 14-16, 1982, the then Foundation Board, together with the participants in the project and a number of specially invited guests, made an excursion from Luleå to Jokkmokk.

The aim of the visit to the Lule River in August 1993 was different to that of the project visit in 1982. The second visit provided an opportunity for evaluating the project and the research that had started more than 10 years previously. The evaluation undertaken on the second occasion was aimed more at studying the project as an example of interdisciplinary work. It was considered that the experience gained from this project was valuable for application to the work of managing the new fund for research in the humanities and social science. Thanks in large measure to the project leader, Professor **Evert Baudou**, and his colleagues in the project, the study visit was extremely interesting and valuable for the Foundation's continued work. As a result of the archaeological discoveries at Vuollerim, the project has had an extraordinary and lasting effect with the construction of an informational building called "Vuollerim 6000 years". Since the end of the 1980s, the exploration site has received about 20,000 visitors each year. The foundation "Vuollerim 6000 years" was set up in May 1991, the founders being Jokkmokk Municipality, the State Power Board and Ájtte, Swedish Mountain and Saami Museum. This foundation's aim is partly to disseminate information about prehistoric times, especially in relation to Upper Norrland, and partly to promote research in the humanities and social science and experimental activity. The supervisor of these activities is **Ulf Westfal**, who took part as one of the archaeologists in the project.

The activities exemplified above form a regular and natural part of the Foundation's efforts to promote contacts with international research and to stimulate the exchange of information between researchers engaged in different areas as well as between researchers and sections of society outside their circle. As stated earlier, the object is naturally to try to assist in promoting an understanding of, and knowledge about, the prerequisites for research, the work methods employed in it and its results and thereby to provide a basis for assessing the efforts that have been, and are being, made with the help of the available research funds. The meetings attended by decision-makers, representatives of various public interests and researchers are considered particularly valuable.

The Bank of Sweden Tercentenary Foundation is actively engaged in wide fields of scientific research. The range of competence among the researchers on the Board and on the preparatory committees illustrates this fact. Besides, the Board includes persons with expert economic and political knowledge. Because of the range of competence among its members, the Board represents an unusually large field of experience and thereby has a unique position as an all-round contact agency between different areas of research as well as between research and other important public interests.

Donations

In the currently valid statutes (adopted as of January 1, 1988) it is stated that "there is nothing to prevent additions to the Foundation's funds in the form of donations from individual persons."

An endowment of this kind was received in 1992 from **Erik Rönnerberg**, farmer, of Fagerdal, Hammerdal. The endowment now forms part of the Foundation's total assets and is managed together with the Foundation's other assets. The endowment was worth nearly SEK 8 m. at the end of 1993. The return on the endowment will be awarded by the Foundation "in the form of three-year postdoctoral research scholarships to young researchers for scientific studies of ageing and age-related diseases at the Karolinska Institute (KI) in Stockholm".

At its meeting on May 27, 1993, the Foundation's Board of Trustees decided, on the basis of proposals from both of KI's faculties, to award the first scholarship from Erik Rönnerberg's endowment to Richard F Cowburn, Ph.D. The diploma was presented by Erik Rönnerberg to the scholarship holder at a ceremony in the Östersund Hospital on January 11, 1994. Representatives of the County Administrative Board, the University College of Sundsvall, Härnosand and Östersund, the Expert Group for Research in Regional Development (ERU) and other governmental authorities, as well as the County Council and the mass media, had been invited to the ceremony.

Nils-Eric Svensson, former managing director of the Foundation, was thanked during the year partly through the institution of a fund in his name and partly through the arrangement of an international symposium on the theme "Research financing – the quality of research".

The purpose of *Nils-Eric Svensson's* Fund is, through the award of scholarships, to promote mutual exchange of researchers in Europe. Nils-Eric Svensson's Fund will enable young postdoctoral Swedish researchers to travel and spend a short period in an outstanding European research environment. But the fund will also enable young European researchers to engage in research at Swedish research institutes. The Foundation's own contribution as well as the forms for awarding the scholarships were determined by the Board during the past year.

As a result of the appeal for Nils-Eric Svensson's Fund that was made to institutions, research councils, foundations, societies and private individuals, a sum of SEK 383,000 was collected from a total of 257 contributors.

The Board has decided that the fund will extend to the end of the year 2015 and that the Foundation will make a yearly allocation so that a sum of SEK 150,000 in 1994 monetary value can be awarded each year. Three travelling scholarships worth SEK 50,000 each have been announced for 1994.

The scholarship holders will be selected by a panel consisting of the chairman of the Foundation Board, the chairmen of the preparatory committees and Nils-Eric Svensson, together with the managing director of the Foundation, Dan Brändström, who will present the candidates. The scholarships will be handed over in March 1994. The forms for selecting a European scholarship holder for a visit to Sweden will be determined by the Nils-Eric Svensson, chairman of the Board, and the Foundation's managing director after consultation with the Board of the Hague Club. (The Hague Club, an organization registered in the Netherlands, consists of the managing directors of major, independent research foundations in Europe.)

The donation for research in the humanities and social science received by the Foundation will naturally be presented here in this section. The *Riksdag*, in accordance with the bill on research in the front line (bill 1992/93:171, report 1992/93:Ubu16, parliamentary communication 1992/93:387), decided that a donation shall be provided to the Bank of Sweden Tercentenary Foundation for management along the lines stated in a memorandum prepared by the Ministry of Education and Cultural Affairs. The guide-lines characterizing the activity initiated by utilization of the endowment are as follows:

- concentration of efforts to enable research centres or research areas with an international impact to be established
- support for projects and programmes involving interdisciplinary work

- establishment of networks or more definite forms of communication, nationally and internationally, for example, through establishment of an exchange programme for researcher
- improvement of researcher training and recruitment
- encouragement of researcher mobility internationally and between universities/colleges and other activities

According to the government, the following guide-lines should apply to fund management:

- After a build-up period, it should be possible to award about SEK 150 m. annually in 1993 monetary value from the endowment for the support of research in the humanities and social science. Both the return on capital and the capital itself may be used to attain this level.
- The endowment shall be managed such that it can be accounted for separately from other funds at the disposal of the Bank of Sweden Tercentenary Foundation.
- The funds should be awarded on the recommendation of an agency for priority assessments etc. which is under the Foundation Board and whose operations are kept separate from the Foundation's other work.

Finally, it is stated that the special preparatory committee's proposals for the award of funds should be such as to bring about increased pluralism and new forms of activity in research in the humanities and social science.

As a result of the donations which have been received by the Foundation in recent years for joint management with the basic endowment, the Foundation is approaching the stature of similar major funds in such countries as Finland, France and Germany. This form of joint management, illustrated by these funds, contributes to effective asset management and, at the same time, professional allocation of grants for scientific research can be guaranteed. The Bank of Sweden Tercentenary Foundation would welcome further donations.

Financial administration

Investment activity by the Foundation

The weak economic trend in the OECD area persisted during 1993. Growth slowed down in Europe. On the other hand, total production continued to increase in the U.S. The countries of South-East Asia (excluding Japan), which continue to show very high growth figures, stand in sharp contrast to Europe.

Total production in Sweden decreased for the third year in succession. The Swedish economy is increasingly acquiring the character of an economy split into two parts, with strong growth in the export industry and very weak domestic demand.

The year 1993 witnessed a marked fall in European, including Swedish, interest rates. The rate of interest on Swedish five-year housing bonds fell during the year from just over 11% to just over 7%.

The average rate of inflation in Sweden, as measured by the consumer price index, was 4.7% in 1993.

The decision taken on November 19, 1992 to allow the Swedish krona to float led to a strong upturn in prices in the Swedish stock market. The upward price trend continued at an accelerated pace during 1993. Taken over the year as a whole, share prices on the Stockholm Stock Exchange rose 55%. The strong upturn in share prices applies to most industries, possibly with the exception of the forest industry. A growing belief that the Swedish financial crisis had passed resulted in an extremely large upswing in the prices of bank and real-estate shares.

In view of the changed conditions, resulting primarily from the depreciation of the krona and the attendant downturn in interest rates, the Foundation gradually altered its investment policy.

The Foundation nearly doubled its share portfolio during the year. In terms of acquisition value, the share portfolio increased from SEK 349 m. at the beginning of 1993 to SEK 648 m. at year-end. The market value of the Foundation's share portfolio rose still more, from SEK 278 m. to SEK 740 m. It may be mentioned that, among the shares acquired during the year, the Foundation invested USD 5 m. in shares, through unit trusts, in South-East Asia.

In preceding years, the Foundation issued call options to a very great extent on parts of its Swedish shareholding. In a situation with strongly increasing share prices, and expectations of a continuing trend along these lines, such a strategy has no place. At the end of 1993, the Foundation had no call options outstanding.

The Foundation acquired additional real estate during the year. In the spring of 1993, the Foundation bought five residential properties in central Stockholm. When the tenants — co-operative housing associations — in two of these properties exercised their right of pre-emptive purchase, the acquisitions were annulled and the Foundation remained in possession of only three of the properties.

The property Trädgården 2 (Tyrgatan 4) in the Lärkstaden quarter of Stockholm, was acquired during the year. The property is now undergoing renovation and will be occupied by the Foundation office from midyear 1994.

Since 1991, the Foundation has owned half of a commercial property in Stortorget, Malmö. On December 30, the Foundation acquired the remaining part and is now the sole owner of the property.

In total, the Foundation acquired real estate for SEK 90 m. in 1993.

Additional real estate — a residential property in central Stockholm — was acquired. Since the date of taking possession is January 3, 1994, this real-estate acquisition is not shown in the financial statements for 1993. The purchase price was SEK 28.25 m. When making the property acquisitions, the Foundation took over existing mortgages. Accordingly, the Foundation's indebtedness increased from SEK 128 m. at year-end 1992 to SEK 145 m. at year-end 1993.

In order to finance the share and real-estate acquisitions, the Foundation reduced its interest-bearing assets by SEK 227 m.

Of the Foundation's total assets (valued at market value), shares accounted for 31% (13% at year-end 1992), and real estate for 16% (16%). The remaining 53% (71%) was accounted for by Swedish interest-bearing assets.

During the first few days of 1994, the Foundation received additional capital in the amount of a donation of SEK 1,500 m. for the promotion of research in the humanities and social science. Just over SEK 1,100 m. of this amount was supplied in the form of Swedish shares. The relatively low proportion of shares in 1993 may be seen against this background.

Book profit

The result of the Foundation's investment activity in 1993 is reflected in the income statement. The total of all income, including realized capital gains/losses on the sale of various securities, less current expenses, is termed "book profit before grants for research" in the income statement. This book profit amounts to SEK 162 m. for 1993. In 1992, the corresponding figure was SEK 103 m.

Despite falling interest rates and smaller holdings of interest-bearing assets, the Foundation's interest income showed only an insignificant decrease, from SEK 149 m. in 1992 to SEK 145 m. in 1993. The reason for this is that the Foundation's interest income is derived primarily from assets carrying fixed rates of interest – bonds and commercial paper – and that the Foundation reduced its bond portfolio relatively late in the year.

The Foundation's larger shareholding is reflected partly in the fact that share dividends were somewhat larger in 1993 than in 1994. The full effect of the increased shareholding on the dividend payouts will be felt later, however, since share dividends are mostly received during the spring.

As stated above, in a year such as 1993, with changed financial conditions, the Foundation increased its shareholding markedly and reduced its bond portfolio. To some extent, the Foundation also altered the composition of its share portfolio by selling shares not offering very good prospects in the long term either and replacing them with others. This activity resulted in substantial price gains, but also in substantial price losses (see note 3). In net terms, realized capital gains amounted in 1993 to SEK 66 m.

With the exception of properties acquired in the same year, the Foundation has a market valuation of all its properties performed each year. The market valuation of the properties Adam and Eva performed by order of the Foundation was substantially below the Foundation's acquisition value. The Foundation has therefore chosen to make an extraordinary write-down of these properties by SEK 40 m.

A sum of SEK 101 m. remains from the year's book profit of SEK 162 m. after grants approved for research. This amount was transferred in its entirety to the profit regulation reserve.

Additional sums totalling SEK 173,000 flowed into Nils-Eric Svensson's Fund during the year. This amount was added to the Foundation's equity capital. Nils-Eric Svensson's Fund stands at a total of SEK 383,000.

Real profit

The current return on shares and real estate is normally relatively low. The primary purpose of investing in such assets is to share in growth in value. However, at times, the investor meets with a diminution in value. Accordingly, the accounts of a financial institution like the Bank of Sweden Tercentenary Foundation would be incomplete if they were not supplemented with the change in value of assets – "Increase/decrease in unrealized capital gains/losses".

In principle, the Foundation has assets of three kinds that are exposed to changes in value – bonds, shares and real estate. Moreover, certain parts of the Foundation's assets are denominated in foreign currency. Accordingly, changes in exchange rates also affect the value of the Foundation's assets expressed in Swedish kronor.

The net of the changes in unrealized capital gains/losses in 1993 turned out to be an improvement of SEK 201 m.

The surplus value (difference between the market value and the book value = acquisition value) in the bond portfolio increased by SEK 40 m. This is a result of the marked fall in bond interest rates during the year.

As a result of the very strong upturn in share prices, the previous deficit value of the share portfolio changed to a large surplus value. The improvement was SEK 162 m.

As stated above, the value of the properties Adam and Eva were written down by SEK 40 m. This diminution in value has already been taken in the book profit. The market value of the Foundation's other Swedish properties (excluding new acquisitions in 1993) showed only an insignificant change, which was negative, however.

The Foundation has been the owner of two properties in Atlanta, Georgia, U.S.A. One of these properties is owned to the extent of 40% by the Foundation. The remaining 60% was owned by Lars Gullstedt, who was declared bankrupt in 1993. Since joint ownership is exercised in the form of a partnership, the bankruptcy has not had any *direct* effect on the Foundation. Gullstedt has been replaced by the receiver, who will be replaced in the long term by a Swedish bank as partner.

However, since Gullstedt also owned a very large real-estate stock in the same district, the Foundation has been affected *indirectly* by the bankruptcy. The properties now constitute a large potential offering, which has a negative effect on real-estate prices. The value of the Foundation's properties in Atlanta, expressed in dollars, has therefore fallen sharply. The financial statements for 1993 do not make this quite clear since, on translation into Swedish currency, the strongly increased dollar rate largely counterbalances the decrease in value.

In 1993, as before, the Foundation also made an allocation in the real financial statements corresponding to the deterioration in monetary value. For 1993, this allocation was SEK 93 m.

Thus, SEK 210 m. was added to the profit regulation reserve in the real financial statements. The previous deficit of SEK 78 m. in the profit regulation reserve thereby turned into a surplus of SEK 132 m.

Performance

A compilation, consisting solely of financial items, can be made from the income statement (and the various notes). These items have been grouped in a table by type of asset (see page 21).

The Foundation's interest-bearing assets gave a positive result of SEK 205 m. for 1993 (including the unrealized change in value). A very rough calculation, where the profit is divided by the average holding during the year (opening + closing value/2), yields "interest" of 15.5%.

In the same way, stock management by the Foundation gives a positive result of SEK 220 m. The same kind of rough calculation as above yields "interest" of 43%.

The Foundation's properties continue to burden its finances. In particular, because of the requirement of an extraordinary write-down of the properties Adam and Eva by SEK 40 m., the properties show a negative result of SEK 31 m.

The financial result shall also be charged with financial costs in the form of interest expense and financial overheads.

The total financial result for 1993 is shown in the table at SEK 370 m. Based on total opening capital, this yields "interest" of 19.5%.

The financial result has to cover research grants of SEK 60 m., administrative expenses of about SEK 8 m., as well as an increase of SEK 93 m. in the donation capital in order to keep abreast of inflation. The remainder, SEK 210 m., can be transferred to the profit regulation reserve, which thereby has a positive balance of SEK 132 m. The Board's guide-line of a financial buffer amounting to twice the annual sum disbursed for research was thereby followed, for 1993 at any rate.

Financial result (SEK m.)

<i>Asset</i>	<i>Income/expense</i>	<i>1993</i>	<i>1992</i>
Bank funds	Interest income	8	8
	Realized gains – currencies	3	5
	Interest income	27	36
Commercial paper Bonds	Interest income	109	105
	Realized gains	18	1
	Realized losses	–	–
	Change in unrealized gains	40	18
		205	173
Shares, convertibles and options	Dividends and interest	9	7
	Option premiums	1	1
	Realized gains	110	33
	Realized losses	–64	–25
	Change in unrealized gains	166	9
		222	25
Real estate and shares in real-estate companies	Income	27	23
	Depreciation/write-downs	–44	–66
	Other expenses	–9	–5
	Change in unrealized gains/losses	–6	52
			–32
	Interest expense	–18	–9
	Financial overheads	–6	–3
		371	190

Income statement (SEK 000s)

	Not	1993	1992
<i>Book profit</i>			
Interest income	1	144,826	149,529
Dividends		7,907	6,514
Option premiums		1,265	1,328
Income, real estate		26,736	22,793
Interest expense, real estate		-18,060	-9,361
Depreciation, real estate	2	-3,887	-2,593
Write-down, real estate	2	-40,000	-63,000
Other expenses, real estate		-8,645	-4,891
Realized capital gains	3	130,723	40,058
Realized capital losses	3	-64,490	-25,431
Other income	4	186	398
Financial costs	5	-6,117	-3,194
Administrative expenses	6	-8,274	-8,589
<i>Book profit before award of research grants</i>		162,170	103,561
Grants approved for research	7	-60,581	-72,347
<i>Book increase in equity capital after award of research grants</i>	18	101,589	31,214
Increase/decrease in unrealized capital gains/losses	8	201,038	78,290
Allocation for maintenance of real value of donation capital	9, 18	-92,997	-42,507
<i>Real increase/decrease in equity capital after approval of research grants</i>	18	209,630	66,997

Balance sheet (SEK 000s)

	Note	Dec. 31, 1993		Dec. 31, 1992	
		Book value	Market value	Book value	Market value
<i>Assets</i>					
Liquid assets		134,072	134,072	105,922	105,922
Commercial paper etc.	10	236,571	236,571	362,872	362,872
Bonds	11	770,600	852,397	900,365	942,152
Shares and convertibles	12	647,658	740,098	348,704	278,520
Shares in real-estate companies	13	61,370	62,835	61,370	64,019
Real estate	13, 14	326,655	313,100	279,080	270,000
Accrued interest income		48,257	48,257	52,973	52,973
Securities sold		-	-	3,324	3,324
Accrued expenses and prepaid income		508	508	284	284
Other receivables	15	5,249	5,249	1,260	1,260
<i>Total assets</i>		2,230,940	2,393,087	2,116,154	2,081,326
<i>Liabilities and equity capital</i>					
<i>Liabilities</i>					
Prepaid option premiums		-	-	660	4,723
Trade creditors		219	219	-	-
Accrued expenses and prepaid income	16	9,209	9,209	8,431	8,431
Other current liabilities	17	748	748	1,638	1,638
Grants approved but not yet disbursed		33,770	33,770	37,240	37,240
Secured loans		145,504	145,504	128,457	128,457
<i>Total liabilities</i>		189,450	189,450	176,426	180,489
<i>Equity capital</i>					
Donation capital	18	1,506,904	-	1,506,731	-
Donation capital indexed upwards	9	-	2,071,830	-	1,978,660
Profit regulation reserve		534,586	131,807	432,997	-77,823
<i>Total equity capital</i>		2,041,490	2,203,637	1,939,728	1,900,837
<i>Total liabilities and equity capital</i>		2,230,940	2,393,087	2,116,154	2,081,326
<i>Pledged assets</i>					
Shares		-	-	29,543	-
Real-estate mortgages		153,583	-	128,000	-
<i>Contingent liabilities</i>					
Pension obligation		3,410	-	2,844	-

Notes (amounts in SEK 000s)

Note 1	Interest income	1993	1992
	Bank	8,082	7,891
	Commercial paper	27,312	35,928
	Bonds	108,823	105,275
	Convertibles	609	435
		144,826	149,529

Note 2 Depreciation

Depreciation according to plan is based on acquisition values and is spread over the calculated economic life. Depreciation on buildings is effected at the rate of 2% each year.

For 1993, an extraordinary write-down of SEK 40 m. was made in the value of the Adam and Eva properties in Stockholm in order to eliminate the difference between the book value and the estimated market value. See also note 14 and the comment in the text on page 18.

Note 3 Realized capital gains/losses

	1993		1992	
	Gain	Loss	Gain	Loss
Bonds	17,979	231	1,190	-
Shares and convertibles	109,672	62,084	33,442	24,471
Options	404	2,175	443	960
Currencies	2,668	-	4,983	-
	130,723	64,490	40,058	25,431

Transaction costs in the form of brokerage fees have not been charged to realized capital gains/losses. These costs are reported separately. See note 5.

Note 4	Other revenues	1993	1992
	Revenues from publications	28	125
	Unutilized grants	158	273
		186	398

Note 5	Financial costs	1993	1992
	Brokerage fees	5,059	2,682
	Safe custody fee	684	163
	Stock-exchange and Reuter screens	374	349
		6,117	3,194

Note 6	Administrative expenses	1993	1992
	Salaries and other remuneration to		
	- the Board and Managing Director	1,243	1,454
	- other staff	2,320	2,337
	Pension fees	800	461
	Payroll costs	1,209	1,314
	Audit and auditing consultation	300	380
	Other consultancy services	159	168
	Costs of premises	1,334	1,541
	Travel and allowances, office and Board	362	406
	Fixtures and fittings	28	73
	Other	519	455
		8,274	8,589

Average number of employees during the year

Women	5,5	6
Men	3	3
Total	8,5	9

Procurement of machinery and equipment is booked as expenses.

Note 7	Grants for research	1993	1992
	Project grants*	59,211	71,353
	Vetting by experts	296	342
	Conferences, information, etc	1,074	652
		60,581	72,347

*The amount includes overhead charges of SEK 5,640,000 (5,921,000) paid to state universities, value added tax of SEK 3,994,000 (7,090,000) and award of SEK 223,000 from the Rönnerberg Scholarship.

Note 8 Change in unrealized capital gains/losses

	1993		1992		Change
	Gain	Losses	Gain	Losses	
Bonds	81,797	-	41,787	-	+40,010
Shares and convertibles	92,440	-	-	70,184	+162,624
Options	-	-	-	4,063	+4,063
Real estate and shares in real estate companies	-	12,090	-	6,431	-5,659
	174,237	12,090	41,787	80,678	+201,038

Note 9 Allocation for maintenance of real value of donation capital

The average value of the consumer price index in 1993 was 243,2. The corresponding value of the index for 1992 was 232,3. Thus, the consumer price index rose 4,7% between 1993 and 1992.

The allocation for maintenance of the real value of the donation capital is given by

$$1,978,660 \times 0,047 = \text{SEK } 92,997,000.$$

Note 10 Commercial paper etc.

	Book value	Nominal value
Commercial paper	136,159	140,000
Bank and mortgage institution subordinated loans in the form of		
– Floating-Rate-Note (FRN) loans	50,052	50,000
– Variable-Rate-Note (VRN) loans	50,000	50,000
	236,571	240,000

At the end of 1992, the Foundation held short-term commercial paper, including FRN and VRN loans, with a book value of SEK 362,872,000 (nominal value SEK 375,000,000).

In the Balance Sheet, the Foundation has chosen to report book (acquisition) values as market values in the case of the above short-term securities.

Note 11 Bonds

Urban mortgage bank bonds maturing in	Nominal value	Book value	Market value
1994	365,000	347,782	372,500
1995	120,000	108,724	126,694
1996	200,000	203,722	225,244
1997	60,000	60,878	69,963
1999	50,000	49,494	57,996
	795,000	770,600	852,397

At the end of 1992, the Foundation held bonds (exclusively housing bonds) with a book value of SEK 900,365,000 (nominal value SEK 925,000,000).

Note 12 Shares

Shares	Number	Acquisition value	Market value	Currency
AGA B	69.176	26.149	27.255	
Aritmos	40.000	5.420	3.680	
Asea A	72.652	30.816	42.865	
Astra A	230.005	32.750	43.701	
Avesta	314.000	14.019	13.502	
Cardo	30.000	10.200	11.850	
Ericsson	40.000	10.519	13.640	
ESAB A	20.000	3.900	3.960	
Gambro	20.000	6.767	7.540	
Hasselfors B	38.100	7.058	5.334	
Investor A	30.000	4.040	4.830	
Investor B	32.000	4.297	5.152	
JP A	36.000	14.588	15.480	
JP B	39.000	15.725	16.770	
Kinnevik B	32.580	4.784	5.897	
LIC Care	100.000	7.300	7.500	
MODO A	75.400	18.306	18.850	
MODO Kvb* A	28.600	6.315	7.007	
MODO B	3.978	477	1.011	
MODO Kvb* B	10.600	2.438	2.650	
Perstorp	70.000	16.809	20.650	
SEB A	630.500	31.716	35.308	
SHB A	150.000	16.090	16.800	

*Convertible participating debenture.

Not 12 Shares

Shares	Number	Acquisition value	Market value	Currency
Skandia	150.000	24.128	25.200	
Skanska	65.100	13.624	11.523	
Stora A	25.000	7.240	9.850	
Sydkraft C	53.600	7.330	6.646	
Sydostinvest	258.000	3.696	4.257	
Total Swedish shares		346.501	388.708	SEK

Foreign shares

Shares	Number	Acquisition value	Market value	Currency
Great American R	850	230	1	USD
Smith Corona	50.000	900	316	USD
Intel	17.000	1.016	1.054	USD
Kennametal	28.000	1.018	1.246	USD
King World	25.000	988	959	USD
Liberty	45.000	1.301	1.091	USD
Nations Bank	25.000	1.163	1.225	USD
Pacific Forest	75.000	1.026	1.183	USD
Philip Morris	24.000	1.487	1.335	USD
Quest S. C	130.806	2.000	2.186	USD
Sprint	70.000	2.110	2.433	USD
Temple Inland	20.000	897	1.008	USD
Walt Disney	45.000	1.883	1.918	USD
Weyerhaeuser	26.000	1.001	1.160	USD
Bergesen B	50.000	9.507	7.325	NOK
Danske Bank	21.000	8.092	8.043	DKK
Enso Gutzeit	100.000	4.070	3.680	FIM
Huhtamäki B	22.000	4.114	3.960	FIM
Barclays	150.000	837	936	GBP
Glaxo	80.000	539	578	GBP
ICI	115.000	827	883	GBP
Warburg	60.000	477	566	GBP
Air Liquide	6.000	4.909	5.244	FRF
Bouygues	6.225	4.160	4.277	FRF
General Des Eaux	2.050	4.982	5.992	FRF
Lafarge	13.200	4.975	6.159	FRF
Legris	8.500	4.607	1.853	FRF
LVMH	1.200	4.716	4.482	FRF
Paris Develop.	50.000	5.000	2.750	FRF
Pechiney Int.	20.000	4.030	4.104	FRF
Société General	9.350	5.896	7.162	FRF
Fokker	34.000	1.599	721	NLG
A. Berg Far East	31.817	3.985	5.872	USD
Fleming Eastern Opportunities	113.531	2.000	3.073	USD
Total foreign shares		295.391	345.132	SEK

Convertibles	Nominal	Acquisition	Market	Currency
	value	value	value	
Investor	5.000	5.650	6.137	
SEB	95	116	121	
<i>Total convertibles</i>		5.766	6.258	SEK
<i>Total Swedish shares and convertibles</i>		352.267	394.966	SEK
<i>Total shares and convertibles</i>		647.658	740.098	SEK

Note 13 **Real estate and shares in real-estate companies**

Real-estate company	Foundation's share	Book	Market
		value	value
Peachtree Place, L.P. USA	40 %	27.802	21.639
Reindeer Realty, L.P. USA	90 %	33.568	41.196
<i>Subtotal</i>		61.370	62.835
Real estate			
Styrpinnen 23, Stockholm	100 %	48.962	43.000
Claus Mortensen 24, Malmö	100 %	87.229	80.000
Adam och Eva 9 and 13, Stockholm	50 %	140.017	140.000
Brännaren 7, Stockholm	100 %	17.835	17.700
Kampsången 4, Stockholm	100 %	12.186	12.100
Sländan 2, Stockholm	100 %	9.342	9.300
Trädgården 2, Stockholm	100 %	11.084	11.000
<i>Subtotal</i>		326.655	313.100
<i>Total</i>		388.025	375.935

Properties acquired in 1993 have been assigned a market value equal to the acquisition value.

For other properties and shares in real-estate companies, the market values are based on external valuations performed by reputable valuation firms.

<i>Note 14</i> Real estate	1993	1992
	Acquisition value, buildings	277,531
Accumulated depreciation according to plan	-8,244	-4,357
Extraordinary write-down, buildings	-58,258	-44,000
<i>Buildings, book value</i>	211,029	169,242
Acquisition value, land	160,368	128,838
Extraordinary write-down, land	-44,742	-19,000
<i>Land, book value</i>	115,626	109,838
<i>Total book value</i>	326,655	279,080
<i>Tax-assessment value</i>		
Buildings	79,715	70,730
Land	40,540	36,790
<i>Total</i>	120,255	107,520

The market values of the properties are shown in note 13. See also note 2.

Note 15 **Other claims**

	1993	1992
Rent claims	2,424	330
Down payment, real estate	2,825	-
Claim, Rådstornet	-	93
Claim, Brogatan	-	873
	5,249	1,260

Note 16 **Accrued expenses and prepaid income**

	1993	1992
Payroll costs	136	159
Holidays earned in advance but not utilized	138	80
Special payroll tax on pension insurance premiums	74	122
Accrued interest on secured loans	1,704	1,276
Cost of valuation, real estate	30	30
Prepaid interest income	-	321
Prepaid rental income	5,872	2,555
Property tax	202	3,099
Other accrued expenses	1,053	789
	9,209	8,431

Note 17 **Other current liabilities**

	1993	1992
Employees' tax at source	148	100
Value added tax owed	-	38
Land registration	600	1,500
	748	1,638

Note 18 **Equity capital**

Nominal capital	Donation-capital	Profit	Total
		regulation reserve	equity capital
Equity capital, Dec. 31, 1992	1,506,731	432,997	1,939,728
Nils-Eric Svensson's Fund	173	-	173
Allocation for the year	-	101,589	101,589
Equity capital, Dec. 31, 1993	1,506,904	534,586	2,041,490
Real capital			
	Donation-capital	Profit regulation reserve	Total equity capital
Equity capital, Dec. 31, 1992	1,978,660	-77,823	1,900,837
Nils-Eric Svensson's Fund	173	-	173
Allocation for maintenance of real value of donation capital	92,997	-	92,997
Real increase in equity capital after approval of research grants	-	209,630	209,630
Equity capital, Dec. 31, 1993	2,071,830	131,807	2,203,637

Erik Rönnerberg's endowment

The funds donated by Erik Rönnerberg to the Bank of Sweden Tercentenary Foundation are managed together with the Foundation's other assets and thereby form an integral part of the Foundation's income statement and balance sheet.

However, the return on the endowment will be devoted to a specific purpose. Accordingly, separate accounts are required in respect of the portion of the returns received by the Foundation that is regarded as being attributable to the endowment.

At December 31, 1992, the endowment was $6,792 / 1,900,837 = 0.3573\%$ of the Foundation's total equity capital. Accordingly, of the total return received by the Foundation, before grants for research, 0.3573% thereof shall be considered to be attributable to the endowment.

The value of the endowment at year-end 1993 is shown below.

Equity capital			
Nominal capital	Donation capital	Profit regulation reserve	Total equity capital
Equity capital, Dec. 31, 1992	6,521	157	6,678
Allocation for the year	—	579	579
Grants for the year	—	-223	-223
Equity capital, Dec. 31, 1993	6,521	513	7,034
Real capital	Donation capital	Profit regulation reserve	Total equity capital
Equity capital, Dec. 31, 1992	6,581	211	6,792
Allocation for maintenance of real value of donation capital	309	—	309
Allocation for the year	—	967	967
Grants for the year	—	-223	-223
Equity capital, Dec. 31, 1993	6,890	955	7,845

Nils-Eric Svensson's Fund

A total of SEK 173,000 was paid into the fund during the year. The balance of Nils-Eric Svensson's Fund is thereby SEK 383,000.

Stockholm, February 7, 1994

Inge Jonsson Chairman	Lars F Tobisson Deputy Chairman	Elving Andersson
Barbara Cannon	Lars Engwall	Lena Hjelm-Wallén
Arne Kjörnsberg	Berit Löfstedt	Bertil Persson
Åke Smids	Jarl Torbacke	Sten Wikander
Dan Brändström Managing Director		

Auditors Report

We have examined the annual report, the accounting records and the administration by the board of trustees and the managing director for the year 1993. The examination was conducted in accordance with generally accepted auditing standards.

Our examination did not call for any criticism of the annual report, the accounting records or the administration of the Foundation's business by the board of directors and the managing director. We consider the accounts to be correct and to have been prepared in accordance with generally accepted accounting principles.

Stockholm, February 8, 1994

Ernst & Young AB

Per Björngård
Authorized Public Accountant

New research projects in 1993

As in previous annual reports, summaries of the new research projects awarded grants during the year are given below (pages 33-44). The texts, written by the researchers themselves, are taken from the section headed "Summary of purpose, importance and implementation of the project" in the application forms for grants. The project titles are also taken from the same source.

The uneven figures stated for the grants are due to the fact that they include a supplementary charge for related costs (13.6%) and value added tax (8.7%).

A special list showing all projects granted awards by the Foundation throughout the period of operation, 1965-93, is obtainable from the Foundation's office.

Business Administration

Udo Zander, Stockholm School of Economics

SEK 358,088

Reg. no. 93/348

Innovation and imitation in the modern multinational corporation

This research project aims at improving our knowledge about innovation and imitation of technology in multinational corporations. Research questions requiring an answer are how industrial conditions (type of industry, competition, etc.), the characteristics of technology, and active technological strategies pursued by firms affect the development and outcome of the innovation and imitation process. The results will provide information about types of successful strategies based on innovation and production of leading-edge technologies and on imitation and keeping up with competitors.

Ingemund Hägg,

Department of Business Studies, University of Uppsala **SEK 700,124**

Reg. no. 93/412

Management accounting control in Swedish companies

Systematic knowledge of management accounting control practice in Swedish industry is lacking. The purpose of the project is threefold: (a) to produce systematic descriptions of the existence of accounting measures (and methods and models) and studies of the variation between companies; (b) to analyse relationships between different measures and functions of management accounting control; and (c) to analyse relationships between the existence of different measures and situational factors. Some 40 organizational units in Swedish industry will provide the empirical data.

Economic History

Lennart Schön, University of Lund

SEK 400,070

Reg. no. 93/201

Wage policy, wage structure and economic transformation in Sweden, 1890-1990.

The project investigates the relationships between wage structure, wage policy and structural transformation of Swedish industry during 1890-1990. The wage structure of blue-collar and white-collar workers is analysed, with differentiations for branch, position/occupation, education, sex and region. An ideological-historical study of the wage policy of the various players in the labour market is carried out in conjunction with an investigation of institutional changes related to the bargaining process.

Economics

Torsten Persson, University of Stockholm

SEK 700,124

Reg. no. 93/310

Institutions, growth and economic policy

This project has three parts, each of which uses related methods for investigation of the following theoretical and empirical macroeconomic questions:

(a) *Business cycles and growth.* How does technology spill over and how does income converge between countries? How do sector-specific and country-specific shocks co-vary between countries? What role does human capital formation play in the growth process?

(b) *Institutions and economic policy.* How do income distribution, economic policies and growth interact in the politico-economic development process? How should a federal fiscal constitution be designed to avoid incentive problems at different levels of government? How should the central bank be structured to achieve monetary stability?

(c) *Monetary policy and capital flows.* How can we exploit market information to derive indicators of inflationary expectations? Can we find new and better data to document the tendency towards a "home bias" in international investment portfolios and to discriminate between different explanations for this dominance of domestic securities?

Stefan Fölster,

Industrial Institute for Economic and Social Research **SEK 358,088**

Reg. no. 93/391

Determinants of investment in new plants and productivity growth in Swedish industry

The project entails a theoretical and empirical investigation of the factors that determine entry into new markets and how entry affects productivity growth. A unique database containing entry and other data at the product market level is used for a sample of Swedish industry. Among the explanatory variables investigated are the extent of regulation, cartelization, relative prices and supply of human capital.

Education

Egil Johansson, University of Umeå

SEK 400,070

Reg. no. 93/241

Education and colonialism. Swedish schooling projects in Lapland and the New World during the 18th and 19th centuries.

Swedish activities on the international scene are manifested, among others, by our appearance as a colonial power during the 18th and 19th centuries. A principal aim of the present research programme is to study the function of education and societal change. The competence within the research team provides for a multidisciplinary mode of investigation. Swedish educational tradition offers a productive basis for comparative analyses aimed at generating a comprehensive exposé of Swedish colonialism and the role of schooling.

Martin Johansson, University of Umeå

SEK 74,088

Reg. no. 93/293

Study habits and leisure activities among undergraduate students

This study is intended to compare the situation of students at the University of Wisconsin, Madison, and at the University of Umeå. Students of both sexes and from different kinds of study programmes will be given a questionnaire. Interviews with the students and diaries kept by them will provide more detailed information about different subgroups and the relationship between study habits and leisure activities. Within this field of leisure there will be a focus on physical culture activities. A comparative study of this kind is almost totally lacking. The study will contribute both theoretically and empirically to the field of comparative studies, student culture, university policy and educational settings.

Human Geography

Roger Andersson, University of Uppsala

SEK 370,436

Reg. no. 93/216

Social and spatial mobility of immigrants in Sweden. Effects of the whole-of-Sweden strategy.

This research project combines two subprojects into one. The first will study the inter-community mobility of immigrants from the point of view of ethnicity. It aims at providing a comprehensive picture of patterns and changes in mobility. Moreover, it attempts to develop theoretical formulations and explanations of the changes and factors involved in the internal migration of immigrants in Sweden.

The main objective of the second study is to identify local labour markets acting as social mobility gateways or "escalator regions". The possibilities of an immigrant may be enhanced or curtailed, depending on the type of labour market and the social/institutional structures prevailing in an area, on the one hand, and on the personal capacities and qualifications of the immigrant on the other.

Psychology

Henry Montgomery, University of Stockholm

SEK 228,436

Reg. no. 93/297

Controversies in settled forms: perspectives and perspective shifts in ethical committees for research involving animals

Studies will be made of thought patterns among members of ethical committees for research involving animals. A distinction will be made between *inside* perspectives (the actor views an alternative as being in line with his/her interests) and *outside* perspectives (the actor feels that an alternative may threaten his/her interests). It is assumed that shifts between different perspectives on alternatives favoured by the own party and the other party, respectively, will occur, depending on the actor's current interests (e.g., identification with own party's interests, with interests of other parties, and with interests common to own and other parties). The two latter interests may be clear when decisions are made in ethical committees. Three types of data will be collected: (1) questionnaire data on values and beliefs concerning research involving animals; (2) interviews on perspectives underlying value and belief judgements; and (3) interviews on perspectives underlying decisions made in ethical committees.

Lisbeth Hedelin, University of Gothenburg

SEK 400,070

Reg. no. 93/315

The need for information and the handling of information by decision-makers in organizations

Knowledge of how the information situation of decision-makers can be improved is of great importance in view of today's greater need for efficiency in many organizations. In this project, we will study decision-makers in large organizations in respect of their information needs and handling of information. The purpose is to increase our understanding of the factors affecting decision-makers' information needs and processing of information. We are interested in ascertaining how information sources and channels can be combined in order to provide the decision-maker with the most relevant and up-to-date information in the most appropriate form at various stages of the decision-making process.

Statistics

Anders Martin-Löf, University of Stockholm SEK 395,146
Reg. no. 93-69

Statistical models for analysis of spread of infections

The project aims at constructing models for the spread of infections in a population. In particular, questions concerning heterogeneity, both geographical and among individuals, will be considered. Possible applications include the statistical analysis of various vaccination programmes.

Political Science

Christer Jönsson, University of Lund SEK 597,676
Reg. no. 93-167

Processes of international cooperation

Theories of international cooperation – notably regime and game theory – have tended to disregard processes, exaggerate the rationality of the actors, and proceed from a state-centric perspective. The project aims at shedding light on some of the aspects which have been neglected by these theories, especially *agenda setting, interorganizational bargaining and leadership*. It is based on comparative case studies across issue-areas. Environmental, social, communication and security issues will be studied, and the cases selected will include successful as well as failed attempts at cooperation at the European and global levels.

Stig Arne Nohrstedt, University College of Örebro SEK 290,176
Reg. no. 93/290

Journalism in the new world order

The aims of the project are (a) a systematic comparative analysis of news reporting from the Persian Gulf war in various national media systems, and (b) a study of the strategic conclusions concerning media/military relations in military conflicts drawn by the leading actors on each side, i.e., media managers and defence department officials.

The project will be based on cross-national cooperation between scholars in Finland, Norway, Sweden and the U.S. It is also planned to widen the focus to Germany and some Third World countries if possible. As senior researchers, Professor Johan Galtung and Professor Denis McQuail have agreed to contribute to the project.

Olof Ruin, University of Stockholm SEK 302,534
Reg. no. 93-395

Referenda and European integration – decision, implementation and impacts

This project is concerned in general terms with the role of referendums in European integration. The referendum is conceptualized as a separate political process with a logic of its own, encompassing three distinct phases: first, the decision to hold a referendum; second, the process of implementing it; and, finally, its impacts on the political system. In empirical terms, the project is made up of two separate studies. One of them will focus on the decision and implementation phases of the Swedish referendum concerning EC membership. The other study will be concerned with the impact phase of the referendums on the same issue in Finland, Norway and Sweden.

Law

Lars Lindahl, University of Lund SEK 288,950
Reg. no. 93-129

Conflicts of values in legislation and judicial decision making

Different legal values often conflict, for example, when increased administrative efficiency circumscribes the private spheres of individuals. In cases of conflict, the relative importance of realizing various levels of the legal values must be assessed. This is a problem for the legislator as well as for the judge. From a theoretical point of view it raises questions concerning methods of ranking and different notions of priority or "importance". The aim of the research project is to produce a monograph on this subject. One part of the work deals with the subject from the point of view of logic and the theory of value and preference. A second part deals with the problems of consistent handling of conflict situations in legislation and judicial decision making.

Christian Diesen, University of Stockholm SEK 317,352
Reg. no. 93-152

Laymen and judges

The purpose of the study is to examine the advantages and disadvantages of having laymen and experts in court to assist professional judges. A major part of the study deals with the historical background, comparative law and conflicts which may arise between democratic values and efficiency. The central part of the study concerns the questions of if, how and to what extent the judicial method is influenced by the participation of laymen.

Jan Sundin, University of Linköping

Reg. no. 93/16

SEK 290,176

Mortality and morbidity among men and women in Sweden, 1750-1900

The project studies differential mortality of men and women before and during the demographic transition. As far as the sources allow, morbidity will also be taken into consideration. This is the first major attempt to use machine-readable Swedish population data from two regions on the individual level. We will attempt to analyse mortality rates in relation to the following factors: average age of men and women, civil status, social class and cause of death. Results will be discussed in relation to historical theories and the present-day situation.

Eva Österberg, University of Lund

Reg. no. 93-67

SEK 554,440

Women and the Swedish great power area: early modern history viewed "obliquely from below"

The aim of the project is to apply a gender perspective to 17th-century Swedish history. In order to reveal the true situation of women and society's view of women, the analysis starts by examining contrasting pair roles: private/public (semipublic), elite/commoner, actor/victim, normal/marginal.

Special attention will be paid to the following questions:

– To what extent did ordinary women take part in agrarian and urban production as independent heads of households?

– How did women act and how were they treated in those public spheres to which they had access during this period, i.e., local courts and parish assemblies?

– What was the public attitude to poor and elderly women confined in workhouses and asylums?

What cultural, social and political role did women play in the semipublic sphere of the royal court?

Johan Svedjedal, University of Uppsala

Reg. no. 93-100

SEK 543,326

Women in the literary field. Gender, power and value systems: from the modern breakthrough to postmodernism (1880-1990).

The aim of the project is to investigate gender and power relations in the Swedish literary field. Women have been integrated as well as marginalized in this field. By combining theories from feminist research and sociology of literature, different aspects of this process will be studied. Important theoretical models are current studies of the construction of gender and Pierre Bourdieu's sociology of culture. The project is divided into five areas: 1. Women and the literary elite; 2. Women in the field of modernism and postmodernism; 3. Female publishers; 4. Gender and literary criticism; 5. Literary history and the establishment of literary canons.

**Örjan Lindberger, Royal Swedish Academy of Letters,
History and Antiquities**

Reg. no. 93-180

SEK 342,000

"Fredmans sånger" – an anthology of songs and its texts

The text of a ballad is an acoustic, ringing text. It is very often handed down orally and eventually transcribed by means of written characters and notes. Those transcriptions can differ considerably.

The aim of this research project is to find out what happens during the handing-down process and to establish a method of text criticism for songs. Texts by C M Bellman, one of Sweden's most popular poets, will be examined.

Bertil Rolf, University of Lund

Reg. no. 93-210

SEK 519,864

Credibility, reliability and social structure

The aim of the project is to study the nature of credibility, its social presuppositions and its interaction with the reliability of social institutions. Theories by Durkheim, Weber and Tönnies form the background against which changes in social conditions for credibility will be studied.

A working assumption is that credibility is ascribed to actors, based on assessments of their knowledge, competence, commitments and morals. Credibility is partly an epistemic notion, based on *reasonable* trust or confidence in an actor. Criteria anchored in a social community are a prerequisite for credibility.

The project will employ philosophical analysis, integrating notions from epistemology, ethics and social theory.

Aleksander Loit, University of Stockholm

Reg. no. 93/239

SEK 400,070

State – Church – Society. The period of the great power system of Sweden and the Baltic provinces.

The project seeks to investigate certain areas of the attempt on the power of the Swedish state power to establish its social order in the provinces of Ingermanland, Estland and Livland and, at the same time, to give a comparative account of the development of the same programme in Sweden. The aspects of Swedish ambitions that will be treated are those dealing with control of thoughts and actions: the exercise of justice, education of the people and scholarly education.

Harriet Wallberg-Henriksson, Karolinska Institute SEK 395,146

Reg. no. 93-95

Hormonal and genetic regulation of the glucose transport process in human skeletal muscle

The aims of the present investigation are to elucidate the mechanisms of cellular glucose transport and its genetic and hormonal regulation in human skeletal muscle under physiological conditions and under pathophysiological conditions, such as diabetes mellitus. We plan (1) to investigate the mechanisms behind the effect of various peptides on the cellular glucose transport process, and (2) to investigate the molecular and genetic mechanisms behind insulin resistance in skeletal muscle obtained from patients with diabetes mellitus. For this purpose, we will utilize newly developed methods, such as a technique for in vitro incubation of human skeletal muscle and a PCR technique for the analysis of mRNA for the glucose transport protein.

Bengt Winblad, Karolinska Institute SEK 370,450

Reg. no. 93-256

Clinical and molecular investigations of Alzheimer's disease

Alzheimer's disease (AD) is a neurodegenerative disorder, which is becoming increasingly common with the growth in the number of old people in the population. We have detected an amyloid precursor (APP) gene mutation in a large Swedish family with early onset of the disease and very high penetrance of the trait. Onset of the disease is around 55 years. The mutation co-segregates with the disorder in this pedigree. We now have the possibility of investigating individuals in the Swedish family before they develop the disease and to follow them through the course of illness. We have started this study and perform CT, MRI, PET with ¹⁸F-fluoro-deoxyglucose, EEG with brain mapping and neuropsychology on individuals in the family, both mutation carriers and non-carriers.

However, only a small part of familial AD is caused by mutations in the APP gene and it has previously been demonstrated that AD is genetically heterogeneous. In the family material at the Department we are currently performing a genome search, looking for linkage in our family material. We are currently engaged in work involving 20 AD families. This work is done with microsatellites, covering the whole of the genome.

Arne Öhman, Karolinska Institute SEK 400,070

Reg. no. 93/278

Demasking the face of threat: nonconscious information processing and emotional arousal.

The purpose of this project is to examine stimulus attributes that can evoke emotional responding at an automatic, nonconscious level of information processing. It builds on previous research where we have demonstrated that certain types of biologically fear-relevant stimuli, such as pictures of angry faces, can elicit physiological responses even when presented masked so that conscious recognition is impossible. The research will seek to locate critical stimulus features in the human face (e.g., eyebrows, mouth) for this effect and then proceed to examine how these features affect psychophysiological responding and emotional experience.

Lars Olbe, University of Gothenburg SEK 370,450

Reg. no. 93-282

Gastrointestinal pathophysiology and immunity in relation to Helicobacter pylori

The project is an interdisciplinary approach to identify the pathophysiology behind diseases related to *Helicobacter pylori* in the upper gut. Particular attention will be paid to the mucosal immune response to the microbe and interferences with the feedback regulation of gastric acid secretion and motility. The project aims to improve diagnostic and clinical management strategies, e.g., by exploring the possibility of developing vaccine-candidates.

Olle Lindvall, University of Lund SEK 370,450

Reg. no. 93-357

Development of a transplantation therapy in Parkinson's and Huntington's diseases

We have shown that foetal dopamine-producing neurons can survive and have functional effects at least for 3 years after intracerebral transplantation in patients with Parkinson's disease. The first objective of the present project is to optimize the transplantation procedure in cell cultures and animal models and to perform clinical trials on well-characterized patients in order to clarify the factors (e.g., number, distribution and placement of grafts) that are important for an optimal result. The second objective is to start clinical trials with foetal cell transplantation in patients with Huntington's disease. The initial studies will be performed to clarify whether grafts of foetal striatal tissue, which are effective in animal experiments, can survive and provide relief in the Huntington patient.

Astrid Gräslund, University of Stockholm

SEK 469,236

Reg. no. 93-74

Physical chemistry of red-ox-active iron proteins

A new class of metal proteins – iron-oxygen proteins – has been documented during the past 20 years. Despite versatile functions, these proteins have in common a binuclear iron centre with an oxygen bridge (Fe_2O). This project comprises studies of the structure and function of some members of this class of proteins: ribonucleotide reductase (important for the biosynthesis of deoxyribonucleotides), methane monooxygenase (oxidizes methane to methanol), and purple acid phosphatase (involved in certain tumour diseases). Our methods are mainly spectroscopic, e.g., electron spin resonance or nuclear magnetic resonance.

Lars Edebo, University of Gothenburg

SEK 370,450

Reg. no. 93-143

Waterborne biotoxins and infectious agents in shellfish and fish

Mussel cultivation is a close-to-ideal form of food production, since it transforms nutrient pollution in coastal waters into high-quality food. However, toxic plankton may accumulate in mussels and cause various kinds of shellfish poisoning, in Sweden almost exclusively diarrhoeic shellfish poisoning. Our investigations and surveillance programme have, however, prevented intoxications and identified a fiord basin which is nearly always free of toxin and also heavily eutrophicated. We suggest extensive mussel cultivation here to obtain toxin-free mussels and improved water quality. The project aims at further elucidation of the mechanisms of dissemination and eradication of toxins and infectious agents in the sea.

Per Eriksson, University of Uppsala

SEK 419,842

Reg. no. 93-166

Low-dose exposure to environmental contaminants: neurotoxicological and behavioural-toxicological studies in young and adult mammals

The aim of the project is to investigate the toxic effects that environmental toxic agents might exert on mammals (including humans) during their perinatal brain development and the possible consequences in the adult mammal. The perinatal development of the mammalian brain is associated with many biochemical changes which will transform the foeto-neonatal brain into that of the mature adult. Our previous studies have indicated that the induction of permanent neurochemical and behavioural disturbances in the adult mammal can occur during a defined period of neonatal life, and also that this neonatal exposure to toxic agents can lead to an increased susceptibility to xenobiotics in animals as adults.

Börje Sellergren, University of Lund

SEK 364,276

Reg. no. 93-187

*Materials and surfaces for molecular recognition.**Applications in sensors or in chromatography for drug analysis.*

Molecular recognition is of fundamental importance in biology. Natural as well as synthetic systems capable of molecular recognition has been developed for use in separations, in quantitative analysis and as catalysts. This project deals with the development of two synthetic systems for molecular recognition: (1) Molecular imprinting in network polymers, and (2) Molecular recognition on monolayer-covered gold surfaces. Molecular imprinting is a polymerization technique that has resulted in new affinity materials for enantiomers, for the DNA bases and for the preparation of enzyme-like catalysts. Applications of these materials in selective sample enrichment, in chemical sensors for antibacterial drugs, and in enantioselective catalysis will be investigated. Moreover, a new highly simplified imprinting technique based on polymerization will be developed. In (2) various design strategies will be tested in conjunction with a newly developed signal transduction technique.

Gunnar Fant, *Royal Institute of Technology, Stockholm* SEK 224,740

Reg. no. 93-172

Reading style, language contrasts and poetry reading

The main purpose of the project is to contribute to the understanding of differences in reading style and language-specific differences. This requires a substantial amount of experimental phonetics work directed to methodology dominating the project. A secondary objective is to study poetry reading in relation to prose reading and to attempt to discover distinctive sound patterns of various poetic meters.

Since these objectives really constitute three substantial areas of research – reading style, language contrasts and poetry reading – the results are far from exhaustive, but they illustrate the distinctive role of temporal structures. Thus, one and the same tool, a model of syllable duration within a linguistic frame, can be used in all three areas. In addition to the specific results in these areas, our studies should be of interest as a contribution to experimental phonetic techniques and to insight into prosodic realizations.

Olle Nerman, *Chalmers Institute of Technology*

SEK 246,966

Reg. no. 93-339

Auxiliary information in survey sampling

Development of the theory studying the use of auxiliary information in survey sampling has been intensive during the past 10 years. An examination of ideas and methods in this field is presented in a book recently published by three Swedish statisticians (Särndal C-E, Swensson B, Wretman J., *Model Assisted Survey Sampling*, Springer-Verlag, New York, 1992). The idea behind this project is to study an alternative way of attacking problems of these kinds without the use of any model assumptions.

Statistical information on research grants

Compared with previous years, competition for grants from the Bank of Sweden Tercentenary Foundation has intensified. This fact is illustrated, for example, by the tables given below, which provide an overview of the distribution of grants among different fields for 1993 and for the period during which the Foundation has been active, 1965-1993 (tables 1 and 4). If the grants awarded in the various years are expressed in 1993 monetary value, the sum of the research grants awarded by the Foundation to date is over SEK 2,500 m.

Information about the relationship between continuation grants and new grants in 1993 is provided in tables 2 and 3. Table 3 also shows the duration of these types of grants and their distribution among different faculties.

Several of the projects receiving grants, especially the larger ones, are of a multi-disciplinary or interdisciplinary character. For this reason, it is not possible to give an exact breakdown by field or even by faculty. Grants are listed under the subject deemed to be the most central, generally the field in which the coordinating researcher is engaged. In all essentials, the tables provide a correct description of the trend of the Foundation's activities.

The grants listed under social science (table 1) accounted for 47% of the total of the grants awarded in 1993. Humanities-oriented research accounted for 20% of the total amount awarded. Research projects in medicine, natural science and technology accounted for the remainder (just over 30%). For the entire period 1965-1993 (table 4), the corresponding shares are 54%, 21% and 25%, respectively.

The percentage distribution among the subjects may vary considerably from one year to another. However, the differences should not be regarded as a reflection of changes in the Foundation's grant-allocation policies. The differences are generally caused by the fact that some major, multidisciplinary project, listed under a certain subject, has either been introduced or concluded during the year.

Table 1 shows that 159 project grants were awarded in 1992 out of a total of 577 applications considered. The rejected applications represented a total request for just over SEK 295 m. The corresponding figure for applications rejected in 1992 was SEK 230 m. In this connection it should be noted that, for a number of years, it has been possible to accept applications only during the spring (contrary to the usual practice of accepting applications in the autumn as well). Thirty-five out of the project grants awarded were for new projects (1992: 40 projects; 1991: 46 projects). Of the total funds sought for new projects, only 4.6% received approval.

New grants accounted for 23.0% of the total amount approved during the year (table 2). Thus, the downward trend was thereby broken and the new grants constitute about one-fourth of the total amount disbursed (table 5).

Table 1. Grant applications and approvals in 1993 (SEK 000s)

Field	Grants approved		Applications		Grants approved as % of		
	No.	Amount	No.	Amount	amount sought	number sought	per field/subject
Social science	74	26.745	257	149.325	17,9	28,8	46,9
Economic history	5	1.726	10	5.081	34,0	50,0	3,0
Business administration	8	4.369	47	31.937	13,7	17,0	7,7
Economics	10	3.151	28	17.651	17,8	35,7	5,5
Human geography	2	975	10	6.500	15,0	20,0	1,7
Education	7	1.494	22	15.023	9,9	31,8	2,6
Psychology	11	4.872	29	13.868	35,1	37,9	8,5
Sociology	7	2.484	29	20.700	12,0	24,1	4,4
Anthropology	1	222	7	3.129	7,1	14,3	0,4
Statistics	1	395	2	2.099	18,8	50,0	0,7
Political science	15	4.235	30	12.074	35,1	50,0	7,4
Law	7	2.822	43	21.263	13,3	16,3	4,9
Humanities	28	9.896	104	53.500	18,5	26,9	17,3
Medicine	25	10.412	82	63.246	16,5	30,5	18,2
Natural science	19	6.239	91	62.236	10,0	20,9	10,9
Technology	8	2.409	37	22.582	10,7	21,6	4,2
Other	5	1.368	6	1.539	88,9	83,3	2,5
Total project grants	159	57.069	577	352.428	16,2	27,6	100,0
Overhead charges on travel grants awarded		142					
Travel grants, salary-grade increments, sector committees		2.000					
Total		59,211					

Table 2. Continuation grants/New grants 1992 (SEK 000s)

Type of application	Grants approved		Applications		Grants approved as % of		
	No.	Amount	No.	Amount	amount sought	number sought	per field/subject
Continuation grants	124	43.938	136	64.981	67,6	91,2	77,0
New grants	35	13.131	441	287.447	4,6	7,9	23,4
Total	159	57.069	577	352.428	16,2	27,6	100,0

Table 3. Number of final and one-time grants awarded, by duration and faculty, 1993

Duration (years)	Social science	Humanities	Medicine	Natural science	Technology	Other	Total	%
2-3	15	6	4	5	2	0	32	80,0
4-5	4	0	1	0	0	0	5	12,5
6-7	0	0	0	0	1	0	1	2,5
8-	1	0	0	0	0	0	1	2,5
Total	20	6	5	6	3	0	40	100,0

Table 4. Grants awarded during 1965-1993 (SEK 000s)

Field	Applications approved		Amounted awarded, as % of respective field
	Number	Amount	
Social science	2.526	558.583	53,58
Economic history	159	35.916	3,45
Business administration	165	34.619	3,32
Economics	279	68.113	6,53
Human geography	202	53.613	5,14
Education/Psychology	609	128.577	12,33
Sociology/Anthropology	436	87.910	8,43
Statistics	101	18.499	1,77
Political science	463	111.432	10,69
Law	112	19.904	1,91
Humanities	1.077	217.005	20,82
Medicine	517	129.584	12,43
Natural science	390	96.675	9,27
Technology	98	24.489	2,35
Other	102	16.097	1,54
Total	4.710	1.042.433*	100,00

* Equivalent to just over SEK 2.5 bn in 1993 monetary value.

Table 5. Grants for new projects in relation to total grants approved

Year	%
1989	29,7
1990	26,9
1991	23,2
1992	20,4
1993	23,0

Publications by the Foundation

Research reviews and documentation from symposiums, conferences, etc., arranged by The Bank of Sweden Tercentenary Foundation are either published in the form of a series or issued as independent publications.

The staff at the Foundation office will be pleased to supply further information about the contents of the publications as well as the addresses to which orders should be sent. The titles given here are translations of the original Swedish titles. Only those publications followed by an "in English" entry are available in English.

The following titles have appeared to date in the series:

- | | |
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| RJ 1977:1 Working life, economics and the evolution of welfare | RJ 1981:2 The life of women in Swedish society |
| RJ 1977:2 Listen, look, read | RJ 1982:1 The risk of becoming an alcoholic |
| RJ 1977:3 Hello! Hello! | RJ 1982:2 Directly contrary to accepted standards |
| RJ 1978:1 Where do the strings lead? | RJ 1982:3 Changing one's way of life |
| RJ 1978:2 Threat or promise? | RJ 1983:1 Women and men in Swedish society (in English) |
| RJ 1978:3 Dialogue | RJ 1983:2 How are we going to cope with 1990? |
| RJ 1978:4 Two-way cable TV and telconferencing | RJ 1984:1 Alcohol policy and research |
| RJ 1978:5 Push the button | RJ 1984:2 Eastern bloc research in Sweden 1950-1983 |
| RJ 1978:6 Attitudes towards technology | RJ 1985:1 Research on taxes |
| RJ 1978:7 Pain and acupuncture | RJ 1986:1 Taxes – a problem for society? |
| RJ 1979:1 Waiting in the wings | RJ 1986:2 Finance theory investigations |
| RJ 1979:2 Planning at the present time | RJ 1987:1 Technology and employment in the future |
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| RJ 1979:4 Modern times | RJ 1988:1 Research in aesthetic subjects |
| RJ 1980:1 The value and meaning of work | RJ 1989:1 The Swedish Riksdag in an international perspective (in English) |
| RJ 1980:2 Current research on women | |
| RJ 1980:3 Research on working life | |
| RJ 1980:4 Equality perspectives in research | |
| RJ 1980:5 Communication – despite disability | |
| RJ 1980:6 Research on taxation | |
| RJ 1981:1 Swedish research on taxation 1919-1979 | |

Other publications:

Riksdagen genom tiderna (The Riksdag through the ages).

H Schück, G. Rystad, M.F. Metcalf, S. Carlsson & N. Stjernquist (1985).

The Riksdag: A History of the Swedish Parliament.

H. Schück, G. Rystad, M.F. Metcalf, S. Carlsson & N. Stjernquist (1987).

FORSKNING I ETT FÖRÄNDERLIGT SAMHÄLLE, Stiftelsen Riksbankens Jubileumsfond 1965-1990. Edited by Kjell Härmqvist and Nils-Eric Svensson, Gidlunds Bokförlag (1990).

SWEDISH RESEARCH IN A CHANGING SOCIETY, The Bank of Sweden Tercentenary Foundation 1965-1990. Edited by Kjell Härmqvist and Nils-Eric Svensson, Gidlunds Bokförlag (1991).

Riksdagen inifrån. Tolv riksdagsledamöters hägkomster, erfarenheter och lärdomar (The Riksdag on the inside. Twelve Members of Parliament recollect their experiences and the lessons they learned). Edited by Nils Stjernquist, Gidlunds Bokförlag (1991).

Att åldras (Growing old). Report from a symposium on ageing and on age-related diseases.

Editor: Bengt Pernow, Gidlunds Bokförlag (1992).

Riksdagen genom tiderna (The Riksdag through the ages).

H Schück, G. Rystad, M.F. Metcalf, S. Carlsson & N. Stjernquist. Second edition (1992).

Europa – historiens återkomst (Europe – the return of history).

Editor: Sven Tägil, Gidlunds Bokförlag (1992).

Research Funding and Quality Assurance. A symposium in honour of Nils-Eric Svensson. Gidlunds Bokförlag (1993).

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