

measure of research output. We have satisfied ourselves that the average length of published articles has not declined during the period of the study (rather the contrary), but have not attempted to evaluate their quality, except by including only publications in refereed international journals.

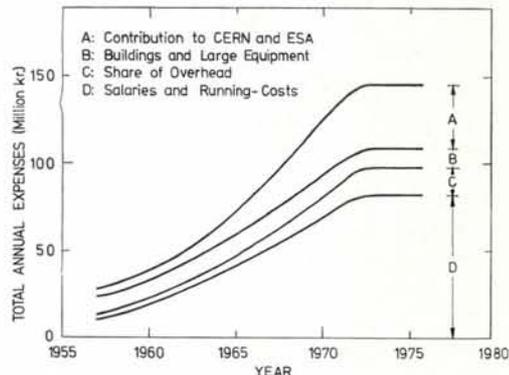
As shown in Fig. 3, the increased investment in physics in the past twenty years has been accompanied by an order - of - magnitude increase in the annual number of publications. The productivity of the individual scientist, measured in these terms, has more than tripled. Despite the uncertainties inherent in our relatively crude method of measuring research output, this figure gives unequivocal evidence of the increase in productivity of the Danish physics community over the past two decades.

The study has revealed therefore that Denmark made a continuously increasing investment in physics research from the late nineteen-fifties to about 1970, and this investment was reflected in a spectacular increase in the results obtained. In the nineteen-seventies, the annual financial investment remained roughly constant, although there was a slight decrease in manpower, whereas the productivity, measured in terms of the number of articles published, has continued to increase. This pattern may perhaps be typical for a number of European countries. The statistical evidence on which these conclusions are based suffers in many cases from substantial uncertainty, but the general trends are clear.

It is apparent that the expansion of physics research in Denmark has, at least temporarily, come to a halt. The failure to obtain political approval for a heavy ion accelerator for the Niels Bohr Institute, on economic grounds, even though the scientific merit of the project was generally accepted, was a recent manifestation of this situation. Most Danish physics laboratories are at present well equipped, and there are a few large installations in the country which are internationally competitive. However, it is clear that research which requires large and expensive facilities will increasingly be performed through international collaboration, so that the increasing trend in the contributions to multinational laboratories is likely to continue. It is possible, of course, that such a laboratory could be placed in Denmark, where the scientific and technical skills undoubtedly exist to make such a venture a success.

The greatest threat to the future of Danish physics lies in the declining

Fig. 2 — The annual investment in physics research in Denmark for the years 1957-76, corrected to fixed prices in 1976 kroner. The curves have been smoothed, to eliminate fluctuations due, for example, of the establishment of large facilities. "Overhead" refers to the common expenses of universities or research establishments. 4 kroner in 1976 prices are roughly equivalent to 1 Sw.Fr. today.



recruitment of young scientists. The decrease in numbers of those who obtain stipends to embark upon a career in physics research, and the consequent increasing average age of Danish physicists, will begin to have serious consequences in the near future, unless steps are taken to reverse this trend. The authorities are aware of this problem, which is felt throughout the scientific community in Denmark, and the Planning Council for Research recently produced a report in which various novel proposals for countering it were made, taking into account the present difficult economic situation.

Danish physicists can look back upon two decades of unprecedented growth and substantial achievement. They have benefitted from economic prosperity and from the understanding which society has shown of the importance of research as a basis for further progress. At the same time, they have made an important contribution to the intellectual and cultural life of the country. Provided that society is willing to continue to make a reasonable investment in research, there is every reason to suppose that Danish physics will be able to maintain its position in the international scientific community.

European Journal of Physics

Contributions in the form of articles, or letters and comments, for publication in the new journal of the European Physical Society published by The Institute of Physics — *European Journal of Physics* — are invited by the Editor, G.W. Series. They should be sent to the Managing Editor of the journal at The Institute of Physics, Publishing Division, Techno House, Redcliffe Way, Bristol BS1 6NX, England. Two copies should be submitted with an additional copy of the title page and abstract in English. Style should follow the Europhysics Style Manual. Subscription enquiries should be sent to the Circulation Manager at the address given above.

The new journal has been created to promote the exchange of ideas on physics as it is taught in Universities and other institutes of higher education. Its function is to communicate to its readers the ideas of those whose business it is to teach, and it will provide a forum for the discussion of new, and possibly controversial, ideas on well established topics in physics.

The journal will publish contributions in the following categories : articles which are explicitly education-

al, that is, of a tutorial or pedagogical nature on particular topics in physics, or relating to methods of teaching physics as practised in particular institutions or countries, or relating to the University training of school teachers ; articles of a reflective nature that bear on the fundamentals of physics or that offer new insights into known phenomena in physics ; articles crossing the boundaries between physics and other scientific disciplines ; articles on the cultural implications of physics.

Belgian Contribution

Following the contribution of the Novo Foundation in Denmark of 30 000 Dkr (see *EN*, May 1979, p. 7) the Belgian Physical Society, after celebrating in November the 50th Anniversary of its foundation, has announced that the Belgian Ministry of National Education and French Culture has made a grant of 100 000 BF to the European Physical Society to help support the initial launch expenses of the *European Journal of Physics*. These expenses have been estimated to be as much as 20 000

UNIVERSITY OF CRETE

The Departments of Mathematics and Physics have openings for visiting appointments at all levels. Appointments will be for one or two years. Greek speaking mathematicians and physicists are invited to apply. Applicants should send a curriculum vitae, three letters of recommendation and a certified copy of their doctoral degree by the end of April 1980 to :

Ms Sophia Politi, University of Crete, Solonos 71,
Athens 143, Greece.

Sw.Fr. in the first year (The I.o.P. investing an equal sum).

These grants made through EPS National Societies are of the greatest importance for the financial stability of the Society and it is hoped that, once launched, other National Societies will be persuaded to seek funds to help EPS through the initial years, until the journal becomes profitable.

Europhysics News apologises for having published in the last issue an out-dated list of members of the Editorial Board of the *European Journal of Physics*. This should read as follows :

EPS nominations :

L. Gougenheim, Meudon
M. Hulin, Paris
W. Kuhn, Giessen
K. Kurki-Suonio, Helsinki
G. Marx, Budapest
A. Meessen, Louvain
E. Mendoza, Jerusalem
A. Piekara, Warsaw
R. Sexl, Vienna
G. Toraldo di Francia, Florence

I.o.P. Nominations

M.V. Berry, Bristol
W.E. Burcham, Birmingham
M. Hart, London
B. Pippard, Cambridge
R. Schofield, Uxbridge
K.W.H. Stevens, Nottingham

Editor is G.W. Series of Reading

Society News

Advisory Committee

Professor L. Samuelsson of the Department of Physics and Measurement Technology at the University of Linköping has agreed to become the new chairman of the **EPS Physics Education Advisory Committee** in place of Professor Janner. The latter will continue to edit and distribute *Europhysics Education News*.

Divisions

New coopted members of the Board of the **Molecular Physics Section** of the Atomic Physics Division are M. Winnewisser, Giessen and J. Mills, Reading.

National Societies

New President of the **French Physical Society** is B. Cagnac of the University of Paris VI. The new Secretary-General is M. Barrère of ONERA.

New Chairman of the **Swedish Physical Society** is Ingvar Lindgren of the Chalmers University of Technology at Gothenburg.

Reelected President of the **Turkish Physical Society** is E. İnönü of the Bogazici University, Istanbul.

CMD Conference

Readers of *Europhysics News* are advised that in view of the publication date of this issue, the organizers of the Antwerp Conference have agreed to do their best to accommodate late inscriptions.

EPS Scholarships

The Physics Department of Geneva University announces that it is offering again an EPS Scholarship, the desired qualification being a Ph. D.

Subjects covered by the Scholarship are: Field theory; elementary particles; statistical mechanics; solid state theory; superconducting materials; elastic and transport properties of metals; magnetic resonances; physical metallurgy: high energy experiments; nucleon-nucleon scattering; electronics.

Duration of the Scholarship is nine months starting approx. 1 October, 1980. Monthly remuneration is 2000 Sw.Fr.

Candidates are invited to send for application forms to the EPS Secretariat. These will need to be returned by 30 March, to be considered.

Full confirmation has not yet been received that all Scholarships offered in previous years will be renewed but potential candidates may request application forms on the assumption that places and terms will be similar to those already published in *EN* for 1979. Further information may be obtained from back copies of *EN* or by writing to the EPS Secretariat.

Erik Rudberg

All members of the European Physical Society will be distressed to hear of the death on 2 Jan. of Erik Rudberg, EPS President from 1970-1972. An appreciation will be published in the next editorial issue.

EPS Divisions, Sections and Group

Astronomy and Astrophysics Division
Solar Section

Atomic Physics Division
Atomic Spectroscopy Section
Chemical Physics
Electronic and Atomic Collisions
Molecular Physics

Computational Physics Group

Condensed Matter Division
Low Temperature Section
Macromolecular Physics
Magnetism
Metals
Semiconductors and Insulators
Surface and Interface

High Energy & Particle Physics Division
Nuclear Physics Division
Plasma Physics Division
Quantum Electronics Division

Europhysics News is the official journal of the European Physical Society that comprises 28 National Societies, Academies and Groups, over 3000 Individual Ordinary Members and 30 Associate Members. Governing bodies of EPS are the General Meeting, Council and an elected Executive Committee responsible for detailed policy. EPS promotes the collaboration of physicists throughout Europe and encourages all aspects of international exchange in physics. EPS awards scholarships for research and studies in different countries. EPS publishes, in addition to *Europhysics News*, *Europhysics Conference Abstracts*, *Europhysics Education News* and the Proceedings of its General Conferences. Individual Ordinary Members receive *Europhysics News* (subscription for non-Members: 75 Sw. Fr./a), substantial rebates on many publications and pay reduced fees at conferences. Application for membership is made through the permanent Secretariat in Geneva. Annual subscription for members of a National Society from 1 January, 1980 is 32 Sw.Fr.

Editor: E.N. Shaw

Meetings Compilation: W.S. Newman

Editorial Board :

K. Appert, A. Baratoff, G.J. Béné,
G.R. Macleod, A. Maeder, J. Muller

Editorial and Advertising Office at the EPS Secretariat.

Address: EUROPEAN PHYSICAL SOCIETY
P.O. Box 69,
CH-1213 Petit-Lancy 2
Switzerland

Telephone: Geneva (22) 93 11 30

Telex: 23 455 alarm ch

Cables: europhys geneve

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