

europ physics news



BULLETIN OF THE EUROPEAN PHYSICAL SOCIETY

Volume 4 Number 3

March 1973

Viewpoints:

Individual and Collective

Physics in Perspective and *Physics in the Twentieth Century* are two books which offer contrasting views of physics on the one hand, whilst they are complementary on the other. As physics itself progresses with contributions from individuals and from groups, it is refreshing and instructive to read how physics appears from these two aspects. It is the more rewarding when one appreciates that the individual, V.F. Weisskopf, was also a member of the group, the Physics Survey Committee. Then, one can identify the impact that his contributions had on the final form of the collective view.

Physics in Perspective, let us be clear, sets out to 'sell' physics to the Administration in Washington. However, it does so in a way which has evoked much comment. For example, Philip Abelson of *Science* has accused the report of being 'self-serving' in that its only aim is to gain more financial support for physics. E.G. Sherburne, Jr., of *Science News* has also attacked the report because, although it identifies public understanding of physics as necessary, it does so only to serve the interests of physicists. Clearly, such influential science writers believe that the public's needs in understanding physics are somewhat different from what the physicists want to offer.

Physics in Perspective too often justifies further support upon the contribution of physics to national

(continued on page 6)

Contents

Viewpoints	1
Trends in Physics	1
Europ physics Journals	2
Polish Physical Society	3
Harwell and Contract Research	4
Malthus with a computer	7
Meetings	8

Trends in Physics

The Proceedings of the Second General Conference of the European Physical Society, held at Wiesbaden from 3-6 October 1972, has been published. The Conference carried the title 'Trends in Physics', which is another way of saying 'The Growth Points of Physics' — the title of the inaugural conference of EPS, held in Florence in 1969.

These Conferences take stock of the physics scene and bring scientists together from all branches. Some people might not regard such an exercise as useful. A specialized conference can get its teeth deep into a subject and active research workers discuss, formally and informally, their work in detail. A General Conference is by definition more diffuse. Review talks cover many branches of research and are 'generalized' so as to be accessible to physicists working on other problems. Thus, the benefits are less direct but can be even more important.

There can be benefit from 'cross-fertilization' — advances in understanding and/or technique carrying over from one branch of research to another. Within physics many subjects are intermeshed, but it is comparatively rarely that physicists in different fields talk together. And yet some oracles grade the importance of a branch of research by its relevance to other research!

A different benefit from a General Conference is that physicists lift their heads up and take a broader look at physics. Physicists cannot have their heads up all the time — heads usually have to be down to do research. But, from time to time, it is important to see how individual research fits into the progress of physics as a whole. At both EPS General Conferences, most participants have found this broader look very stimulating intellectually; they have returned to their own laboratories to kick boxes of

B. Southworth, CERN

electronics much more enthusiastically.

The Florence Conference was a glory. The Wiesbaden Conference could not aspire to the same heights but it was also a very great success. The high quality is reflected in the Proceedings. The Proceedings include the plenary lectures and a few talks given at Divisional sessions. (Three plenary lectures, however, are represented only by brief notes and one is not covered at all — perhaps a measure of the interest in these subjects.)

The Proceedings does not serve primarily to inform a physicist how his subject is progressing, but is a fine collection of reviews on the main lines of development in physics. Many talks were so outstanding that they distilled the essence of a subject in a way which will attract the interest of any physicist. Among these, for example, are **W. Kundt** on *The origin of the universe*, **A. Abragam** on *Nuclear pseudomagnetism*, **A. Schlüter** on *On the way to a fusion reactor* and **L. van Hove** on *Recent developments in high energy physics*.

At Wiesbaden it was obvious that the dominant 'Trend in Physics' at present is an increasing concern about the interrelation of physics and society. It is appropriate, therefore, that this topic receives a fair share of attention in the Proceedings. There is the thought-provoking talk of **J. Tinbergen** on *Environment, scientific research and economic policy*, the personal statement of **H.B.G. Casimir** on *Physics and Society* and the report by the EPS Advisory Committee on *Physics and Society*.

These three contributions should be required reading for the modern physicist — not because they present solutions, but because they present the problems in a balanced way. In general, these contributions neither inflate the problems, so that the case

Europhysics Journals and the Communications Revolution

As the result of an agreement between the European Physical Society and the American Institute of Physics, all Europhysics Journals are now included in the *Current Physics Advance Abstracts* (CPAA) publication. At a meeting of Editors of Europhysics Journals in January 1973 at the EPS Main Secretariat in Geneva, A.W.K. Metzner explained the significance of CPAA to the Current Physics Information (CPI) programme of the AIP. He referred to the February 1973 *Physics Today* which describes the CPI programme as the basis of a Communications Revolution and to the November 1971 *Physics Today*. The CPI programme comprises a computerized file of secondary information covering all articles in a select set of journals (if a journal is an Europhysics Journal, it is automatically selected). It was launched in 1971 with support from the National Science Foundation — support which terminates in 1973.

CPAA is issued monthly in three sections (*Atoms and Waves, Nuclei and Particles, and Solid State*) and contains abstracts of articles about six months before publication. In this way, individual physicists keep abreast by being alerted to forthcoming articles scheduled to appear in the se-

lected journals (mainly AIP and Europhysics Journals). Obviously, there will then be some encouragement for authors to publish articles in the selected journals because their work will become known earlier. One of the main functions of the CPAA publication is that other physicists will be able to contact the authors of interesting papers before they are published, since the main author's address is given.

Other products of the CPI programme are :

Searchable Physics Information Notices (SPIN) — a computer readable magnetic tape which records the title, type, journal, volume, date, page number, abstract, key words, subject classification numbers and bibliographic references of each article.

Current Physics Microfilm (CPM) is a monthly microfilm version of the full text of all articles in the primary journals published by AIP in the previous month, including translations of Soviet journals.

Current Physics Titles (CPT) are published monthly in the same sections as CPAA and alert users to what currently appears in the primary literature in physics.

The CPI programme is gradually being integrated with the publishing of AIP journals, so that there is as little duplication of typesetting as possible. However, it is clear that the support of physicists throughout the world is needed to make the CPI programme feasible. To this end, AIP is currently negotiating with the Institution of Electrical Engineers, London (publishers of *Physics Abstracts, INSPEC Physics Tapes, and Current Papers in Physics*) to launch an integrated *World Physics Information* service in 1974.

European physicists, laboratories, institutes and libraries who wish to have further information on CPAA, or any of the other AIP services, should contact the European agents :

IEE, Savoy Place, London WC2R

Europhysics Journals

Czechoslovak Journal of Physics (Section B)

Fizika (Yugoslavia)

Il Nuovo Cimento (Parts A and B) (Italy)

Journal de Physique (France)

Journal of Physics (UK)

The Philosophical Magazine (UK)

Physica (The Netherlands)

Zeitschrift für Naturforschung A (Fed. Rep. of Germany)

These are the general physics journals included in CPAA at the date of the meeting in Geneva.

(continued from page 1)

collapses under the strain of unsupported argument, nor ignore them, which would have been unwise when society is certainly very conscious of them.

Concern with the use of knowledge emerging from physics research rippled through lectures to a far greater extent than at Florence. The Proceedings include, for example, the talk of **B.B. Goodman** on *Applications of superconductivity* and the talk of **A. Schlüter** on fusion reactors mentioned above. Potential applications were picked out in many other talks.

Thus the Proceedings of the Wiesbaden Conference is a good mirror of today's physics, not only because it summarizes the state of the art (or, rather, 'state of the science'), but also because it catches the position of physics in the broader context of society.

Editor's note : *Trends in Physics* is now available at Sw.Fr. 55.— (including postage), or at Sw.Fr. 50.— (including postage) to Individual Ordinary Mem-

bers of EPS. To order your copy, please complete and return the adjacent form immediately, since stocks

are limited. Members of DPG will, however, automatically receive a copy free-of-charge.

Trends in Physics

Published by European Physical Society,
P.O. Box 39,
CH-1213 Petit-Lancy 2, Switzerland

Please enter my order and send me your invoice

Name (in CAPITALS) _____

Address : _____

Order No. _____

Place, Date _____

Signature _____

To keep your copy of Europhysics News
intact you may reproduce this form.

I am / am not an Individual Ordinary Member of EPS