

Anyone can use PRINT, even children, and, thanks to its ergonomic design, its handling does not cause psychical or physical stress. It fits comfortably into the hands and it can be conveniently used sitting in an armchair by the fire. A small accessory, available at trifling extra cost, is the pencil. This enables the user to add or skip information, to adapt the system to personal needs. Unnecessary information is easily erased or discarded by throwing it into the fire.

How does this revolutionary, unbelievably easy invention work? Basically, PRINT consists only of one or more paper sheets. Each sheet bears a number in sequence, so that the sheets can be used in an adequate order. Each sheet of paper presents the user with a sequence in the form of symbols and/or images which he absorbs optically for automatic registration in the brain. When one sheet from a multisheet PRINT has been assimilated, a flick of the finger turns it over and further information is found on the next sheet.

PRINT is, in fact, a low-cost and space-saving display. If desired, both sides of each sheet may be used and in this way even greater economy is effected. No buttons need to be pressed to move from one sheet to

another or to start a PRINT working. PRINT may be taken up at any time and instantly it is ready for use, since nothing has to be connected up or switched on. The user may turn at will to any sheet or to any part of a particular sheet, going backwards or forwards as he pleases. PRINT thus provides true random access to a non-volatile memory.

PRINTs may be stored in handy portfolios on the cover of which a schedule may be indicated for ease of reference. Thus a convenient method is provided for compiling private data sets instead of having access to central, on-line data sets via complicated remote terminals. PRINT also offers the possibility of simultaneous display of any number of data sheets without the need for display terminals with multiple-page facilities. A selection of most interesting information can be presented in the form of 'pictures on the wall'.

PRINT requires no upkeep costs; no batteries or any other power supply are needed, since the motive power, thanks to an ingenious device patented by the makers, is supplied by the brain of the user.

Altogether the PREcise INformation Tool seems to have great advantages and no drawbacks. We predict a big future for it.

Appendix 2 Criteria for mass media communication

For selecting the subjects :

- a social relevance ; applications recognizable to layman ;
- b timeliness ;
- c elements of tension, adventure, conflict.

For form of presentation :

- a use heading and illustrations as eye-catchers ;
 - b support acceptance of printed material by personal contacts between publicists and research institutes (e. g. once a year) ;
 - c audio-visual media (e. g. T.V.) can be much more powerful, especially for subjects with strong affective aspects (social relevance of a research item, motivation for physics, career possibilities, science policy, etc.).
- However, efficient presentation asks for a considerable effort from the research institute ; therefore, only advisable on special occasions.

Research, Science and Education

Research, Science and Education is the title of the 27-page programme of work proposed by R. Dahrendorf, Commissioner responsible for these areas within the European Economic Community. In introducing the programme, Dahrendorf indicates that science and education should play a special role in bringing the economic growth of the Community to the service of mankind and the quality of life. Because he clearly realized that things are not automatically good through being done on a European scale, the Commissioner confined his working programme to three kinds of task :

- (i) Measures in the fields of research, science and technical information which are prescribed as Community tasks, or which arise for Community policies in other fields ;
- (ii) Measures which are in themselves likely to further European cooperation and thus support the general aims of the Community ;
- (iii) Measures which can be better undertaken at Community level

than at national level or at that of international organizations.

There are no special references to physics as such in the programme, but it is clear that its fulfillment will depend much on the active cooperation of European physicists. Several highlights from the programme are especially relevant to the goals of the European Physical Society :

Free movement of persons

Dahrendorf states that there should be hearings of groups and organizations concerned by freedom of establishment for professional persons, in order to make rapid progress towards the mutual recognition of diplomas. Also, educational cooperation with other countries, in particular developing countries, should include the offer of more scholarships and the provision of experts.

Science

For a common scientific policy to be developed, according to the programme, scientific cooperation in pure research between Member States of

the Community will have to be promoted and made more efficient. Some of the steps along the path towards attaining this objective are :

- (i) Greater mobility of research scientists within the Community ;
- (ii) Greater facilities for international meetings in the Community ;
- (iii) Stimulation of concerted action and cooperation projects in Europe ;
- (iv) Listing of laboratories which could develop into special research establishments at the European level ; creation of a specialized network of such laboratories ;
- (v) Coordination in costly long-term projects ;
- (vi) Common use of expensive heavy equipment.

Research and development

The major part of the programme is concerned with defining R & D objectives, topics, activities and organization. Dahrendorf believes that R & D policy is particularly important, since Member States' willingness to

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Fifth Annual Conference on Atomic Spectroscopy

Lund, 10-13 July 1973

The thousand-year-old City of Lund in the south of Sweden provides excellent facilities for conferences. Inevitably, many participants in the 5th Annual Conference of the European Group for Atomic Spectroscopy must have come to this conclusion. They attended a conference that was organized by colleagues from the Atomic Physics Laboratory of the Lund Institute of Technology and from the Atomic Spectroscopy Laboratory of the University of Lund.

From 10-13 July 1973, 260 physicists came together in the Sparta Centre; among them was the first, and now honorary, president of EGAS, A. Kastler from Paris. In his opening address, he reminded the audience of the Rydberg Conference on Atomic Spectroscopy, also held in Lund, in 1954. B. Edlén from Lund, resigning president of EGAS, welcomed the participants; in the first place, those among them who also attended the Rydberg Conference; secondly, the many newcomers; and, finally, all acquaintances of previous conferences.

Seven invited papers reviewed almost the entire field covered by EGAS: theory was represented by *Relativistic Effects in Atomic Spectra* from S. Feneuille, Orsay; N. Spector, Yavne, presented *New Trends in Rare-Earth Analysis* and A. Gabriel, Culham, showed the relation between Atomic Spectroscopy and Astrophysics in *High-Charged Ions in Astrophysics*, illustrated with spectrograms from the corona with wavelengths down to 15 Å. The emphasis, however, was laid on modern spectroscopic techniques with 4 invited papers: *Applications of Synchrotron Radiation to Atomic, Molecular and Solid State Spectroscopy* from K. Codling, Reading; *Applications of Tunable Lasers to Atomic Spectroscopy* from H. Walther, Cologne; *Recent Progress in Studies of Atomic Spectra and Transition Probabilities by Beam-Foil Spectroscopy* from I. Martinson, Stockholm; and *Fine structure, Hyperfine structure and Lamb Shift Measurements by the Beam Foil Technique* from J. Andrä, Berlin. The invited papers, which will be published in

Physica Scripta were each followed by contributed papers in the same field. The number of contributed papers was 115.

Round-table discussions enabled participants to bring problems to the fore that could be interesting to others and that, maybe, could be solved. Topics were: Tunable Laser Spectroscopy, Isotope Shift, R.F. Spectroscopy and Term Analysis. The last mentioned resulted in a report on the progress of the analysis of spectra, achieved in 13 institutes. Visitors to the laboratories of both organizing groups admired the collection of 10 long-focal-distance spectrographs, covering the region 50Å-4μ, used with various experiments.

Scientific activities were interrupted by receptions in 'Stadshallen' by the City of Lund and in the University building by the University of Lund. Many participants enjoyed the Conference Dinner Party and the post-conference bus trip.

During the conference, business meetings of EGAS were held including the General Assembly. Three new board members were elected for a period of three years; the resigning president, B. Edlén from Lund was succeeded by A. Steudel from Hanover.

E. Meinders

Pollution in the Air

SCORER, R.S. (Routledge & Kegan Paul, London, 1973) 144 pages + Index. £2.75

To read *Pollution in the Air* is to appreciate, on the one hand, how much scope there is for environmental physics and to be astonished, on the other hand, at the vast sums committed by politicians for detecting and cleaning air 'pollutants' whose harmfulness has never been justified. As a professional worker in theoretical mechanics and an active politician himself, R.S. Scorer is well placed to address both scientists and politicians.

His longest chapter on 'A Theory of Anti-Pollution Law' contains many gems. The ten arguments he gives against establishment of ambient air quality standards have been shown to be borne out in practice in the U.S.A., where enforcement of the Clean Air Act of 1970 by the Environmental Protection Agency has led to increasingly complex legal difficulties.

The most revealing moments are where Scorer exposes the opportunism of those scientists who are

guilty of scare-mongering. Lead in petrol, carbon monoxide in exhaust fumes, mercury in fish, DDT dangers, and supersonic transport effects on the stratosphere are all declared to be 'non-problems' on subsequent analysis. According to Scorer, 'We ought to keep our attention on smoking, and on nuclear weapons which cannot possibly be used for a purpose which would subsequently be approved of.'

However, he reserves his last words for the emerging energy crisis with an appeal not to be simple-minded about the possibilities of nuclear power. There are serious problems of disposal of radioactive wastes in fission, and even if fusion energy is controlled, the radioactive by-products have still to be established. It is clear that the ingenuity and talents of physicists will be much in demand by governments faced with increasing pressure for action on the energy crisis. However, the message from this book is also clear — scientists should take every step to keep the public directly informed in terms it can understand.

Research, Science and Education

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adopt one is a sign of their willingness to act as a community. R & D is seen to have two central themes:

- (i) Innovation in response to social requirements to meet the needs of protecting the environment, health, education, urban development - that is, in general, improving the quality of life.
- (ii) Innovation in industry to maintain and increase capacity and to raise the level of technology.

Scientific and technical information

From the programme, it appears that the Commission will be preparing to devote considerable efforts to improving the effective circulation of scientific and technical information. The Commissioner had been impressed by somewhat pessimistic expert opinion that data processing will raise *intractable* problems of a social, political and economic nature, so he proposed the setting up of an efficient and justifiable system for the management and development of information as a primary objective.