picture of the subject both theoretically and experimentally and they successfully start from an introductory level and end up with the recent developments. Supplied with these chapters a graduate student should be able to repeat most of the important work on p - n diodes.

There are many chapters on superconducting tunnelling including some on Josephson junctions. The tunnelling aspect of these chapters is secondary to the superconductivity content because the tunnel junction largely provides a spectrographic technique for probing the superconducting properties of the electrodes of the junction. This technique has proved so rewarding in providing information, however, that it justifiably constitutes a major portion of the volume. Again one gets a very good picture of this subject from these chapters.

There are other chapters which do not fall into groups, such as ones on molecular excitations, zero bias anomalies, atomic tunnelling and photon assisted tunnelling, but which complete the overall picture.

Nobody reading this volume should regard it as the gospel on tunnelling because there are a few doubtful explanations and results. For example, a more careful study of the time taken for an electron to tunnel (chapter 1) will give a slightly longer time than the zero time predicted. There is also some doubt that the structure on the conductance curves for Bi (chapter 5) is due to the band structure. Then there is the problem of the voltage potential quietly mentioned at the end of chapter 25, which is actually quite serious, and there is a wrong interpretation of the magnetic field effect on zero bias anomalies in terms of only the second order effects (chapter 27). It would be impossible, however, to write a current account of a subject that would stand for all time and the price of a few inaccuracies is certainly worth paying for this comprehensive and lively treatment of the subject.

A. F. G. WYATT

Obituaries

Dr I. S. Stekolnikov

I. S. STEKOLNIKOV, of the Krzhizhanovsky Institute, Moscow, who died on August 31 after a long illness, was known to many physicists and electrical engineers for many papers on the high voltage electrical discharge, and for his book on lightning and sparks.

Ilya Samuilovich Stekolnikov was born in Tashkent in 1905, the son of a doctor, and graduated from the Technical High School in Moscow. He began his postgraduate work in the All-Union Electrotechnical Institute, Moscow, then under the directorship of Professor Sirotinsky. Stekolnikov submitted his dissertation for a doctorate on the cathode-ray oscillograph and its applications, and then went to Professor Rogowski's laboratory at the Technical Institute in Aachen, to work on high voltage oscillography.

In 1935 he was made head of the High Voltage Laboratory of the G. M. Krzhizhanovsky Institute and created a school of gas-discharge studies known throughout the world. In 1936 he went to work in the High Voltage Laboratory of the Metropolitan-Vickers Company at Trafford Park, a year or so after work had begun on the million-volt spark with a rotating camera.

He began to study the spark discharge in 1937 and continued this work for thirty years, using ever more advanced techniques. He established the leader-stroke to the long spark in Russia, and was the first to use the electro-optical shutter to exclude the intense light of the

main stroke. He was also the first to use the image intensifier camera to record the very weak components of the leader-stroke. With colleagues he was also the first to appreciate the great difference in spark-over voltage of gaps when stressed with surges with very long wavefronts, and present knowledge of the details of the breakdown process in these conditions is due chiefly to the work of his school. Members of his laboratory published about two hundred scientific papers during the thirty years of his leadership, and he was awarded a State Prize of the USSR. Before the Second World War he organized field investigations of lightning, and new work in connexion with this had been started before his death. It involved photographing lightning to a tall building from a neighbouring skyscraper, as McEachron did in 1938 in New York.

Although some of his overseas colleagues were able to keep up continuous correspondence with him, Stekolnikov never went further than the countries of the Warsaw Pact to attend international conferences.

Correspondence

The EMBO Question Debated

SIR,—In your centenary issue (*Nature*, 224, 406; 1969), you report on a recent meeting which you acknowledge to have been held in private, and you are doing so against the explicit wishes of its chairman. I note that you apologize "to those among the participants who may be surprised to see their opinions appear in print". No need to apologize to me on these grounds; for the opinions which you ascribe to me are not the ones I hold, nor are they related—except inversely—to what I said at the meeting.

Yours faithfully,

B. KATZ

Department of Biophysics,
University College London,
Gower Street,
London WC1.

A faulty telephone line between the *Nature* office and a place outside London cannot excuse our correspondent's failure to hear a vital "not" in an account of what Sir Bernard Katz said at the meeting. It is understood that Sir Bernard felt that his colleagues were being used by the politicians to gain a foothold in Europe, as we reported, and that they should *not* allow themselves to be so used. It is therefore wrong to count Sir Bernard among the supporters of the EMBO laboratory, and we must apologize for any embarrassment he has been caused. Editor, *Nature*.

Cyclamates

SIR,—Your leading articles on cyclamates reveal a surprising lack of appreciation of the composition and role of the Food Additives and Contaminants Committee that I feel I must correct.

Contrary to your statement (*Nature*, 224, 298; 1969), food companies are not represented on the committee. The members are mainly drawn from universities, hospitals, and industry, but all serve in a personal capacity. Both they, and the members of the Pharmacology Sub-Committee, give advice as independent experts on matters referred to them by ministers. Neither body would submit, as your article of November 1 seems to imply (*Nature*, 224, 298; 1969), to manipulation by politicians.

You refer to all-day joint sessions to discuss the new evidence from America; in fact the meeting lasted two hours. You are clearly critical of the advice given afterwards that it would be prudent to suspend the use of cyclamates until the results of further investigations

are available. However, I am glad to note that others have taken a very different view.

Yours faithfully,

B. C. L. WEEDON

Food Additives and Contaminants
Committee.

To say that the industrial members of the committee give advice as independent experts, which nobody disputes, does not by itself deny that their value to the committee stems from their knowledge of what happens in industry. Editor, *Nature*.

SIR,—Your leading article "The Cyclamate Bandwagon" (*Nature*, 224, 298; 1969) has left a number of American commentators, including myself, in some confusion as to your position on whether cyclamate should or should not be banned. I believe that your editorial was addressed mainly to the crisis atmosphere in which issues of this kind seem inevitably to be judged. At one point, however, you remark that "the chief harm in this is that it gives the impression that cyclamates had been regarded as entirely safe until now"; at another point you appear to deplore the ban in somewhat less direct language which I may have misinterpreted.

I share your hope that future cases of this nature might be decided more rationally. One step to that aim might be a clear statement as to the proper policy that should be adopted now. An even more important step, perhaps, would be to delineate the kinds of testing that should govern the approval of a proposed food additive. The fact that saccharine has been in use for fifteen years has very little relevance to the possibility of chronic hazards from it—witness the decades that were needed to appreciate the actual health hazards of cigarette smoking. As far as I know, there have been no systematic epidemiological studies that could sort out the possible benefits or conceivable hazards of saccharine.

The potential threat of chemical induction of cancer surely should not be taken lightly: in part because of the dread implications of this particular disease, in part because of the grave difficulties that we have in assessing the carcinogenic potentials of chronic use of any material. In attempts to validate the safety of a food additive expected to be consumed over life-long periods by hundreds of millions of consumers, we must face some perplexities in attempting to use experimental laboratory data; and no one has yet submitted a more rational approach than to feed the agent at very high levels in hopes of revealing its potential toxicity within the limitations of time and of a limited range of experimental subjects that are inherent in an animal experiment. This procedure has many imperfections, but the most serious fallacy may be to rely upon a negative result from this kind of animal testing in the face of suspicions based on theoretical insight or on other indirect evidence that a compound may still have an important biological effect.

Yours faithfully,

JOSHUA LEDERBERG

Department of Genetics,
Stanford University School of Medicine,
Stanford, California 94305, USA.

University News

Professor E. Markland, Queen's University, Belfast, has been appointed to the chair of mechanical engineering, **University College, Cardiff, University of Wales**.

Appointments

The Minister of Technology has appointed **Mr W. J. Charnley**, **Deputy Controller of Guided Weapons** and **Mr H. G. R. Robinson**, **Head of Research Planning Division**.

Mr D. E. Morris has been appointed to the post of **Scientific Adviser** (Civil Aviation) in the Board of Trade, in succession to **Mr S. F. Follett**.

The executive council of the **Commonwealth Agricultural Bureaux** has appointed **Mr W. G. Alexander**, representing the United Kingdom, as chairman in succession to **Mr M. K. A. Agyeman**, representing Ghana, from January 1, 1970. **Mr F. C. Makoza**, representing Malawi, has been appointed vice-chairman.

Dr R. F. Legget has retired as director of the Division of Building Research of the **National Research Council of Canada**. He is succeeded by **Dr N. B. Hutcheon**.

Announcements

The following officers and council members of the **International Union for Pure and Applied Biophysics** will serve for the period 1969–72: **Dr J. C. Kendrew** (president); **Professor F. Lynen** (vice-president); **Professor A. Katchalsky** (honorary vice-president); **Professor A. K. Solomon** (secretary general); **Professor F. Buchthal**, **Professor A. Ehrenberg**, **Professor F. Hutchinson**, **Professor L. Kayushin**, **Dr E. Kellenberger**, **Dr R. D. Keynes**, **Professor I. Málek**, **Professor F. Oosawa**, **Professor B. Pullman** and **Dr G. N. Ramachandran**.

The **Pan-American Association of Biochemical Societies** (PAABS) has been created in order to promote cooperation between biochemical societies in America. Its role and activities will be similar to those of FEBS and its statutes express the intention to work closely with organizations such as FEBS and the International Union of Biochemistry. PAABS will come into being on January 1, 1970. Further details can be obtained from **Dr W. J. Whelan**, Department of Biochemistry, University of Miami School of Medicine, PO Box 875, Biscayne Annex, Miami, Florida 33152, USA.

The **Australian Academy of Science** has established the **Selby Fellowship**, which will be awarded every second year for research in any branch of physical or biological science at a university or research institution in Australia. Applicants should be graduates with preliminary research experience at some university outside Australia and under thirty years of age on July 1 of the year in which application is made. Further details are available from: Executive Secretary, Australian Academy of Science, Gordon Street, Canberra City, ACT 2601, Australia.

Sabbatical Itinerants

In the hope of providing some practical assistance in the good cause of mobility between laboratories, *Nature* advertises the needs for housing of families about to take up periods of sabbatical leave. To begin with, no charge will be made for advertisements like this. It is hoped that a period of experiment will show what form these advertisements could most usefully take and whether they are effective.

Wanted: 4 bedrooomed, centrally heated, furnished house in St John's Wood, Hampstead or Kensington for American professor for 1 year from September 1970. Please contact: **Dr Neil McIntyre**, Medical Unit, Royal Free Hospital, Lawn Road, London NW3. Telephone: 794 4561, ext. 8.

Wanted: Furnished house, 3 bedrooms, in or near Aberdeen, Scotland, for 6 months from March to August 1970 for visiting American professor, wife and 2 children. Please contact: **Dr John R. Tester**, Max Planck Institut für Verhaltensphysiologie, 8131 Erling-Andechs, Germany.