SCIENCE NOTES AND NEWS

Electronic Brain Controls Industrial Processes

Electronic brains, which have intelligence, memory, learning ability, and can make decisions for themselves can now be supplied by Solartron Electronic Group, Ltd., for control of almost any industrial process. Such machines, which are the result of the growing up of the now famous "Eucrates" resemble certain features of the human brain, rather than those of a machine or computor; they are capable of taking action on a decision they may reach.

To the industrialist, it is no longer a matter of having to make room for an installation of a ponderous piece of electronic equipment. 'Eucrates' is relatively small, compact and cleanly constructed, varying in size from an ordinary television console to a combined television, radio and radiogram. Its application may be broadly stated as synchronization of machine and operator performance. It can control plants, measure operator efficiency, determine the best solution for efficient programming of production.

Cern Cyclotron

The Director-General of the European Organization for Nuclear Research (CERN), Professor C. J. Bakker has just announced that the synchro-cyclotron which the organization has built is now operating at full strength. It has a peak output of 600 million electron volts and is the third largest of the kind in the world.

A second high energy accelerator, a 25,000 million electron volt proton synchroton is at present being constructed and should be completed sometime toward the end of 1960. The financial cost of this undertaking is being borne by twelve European countries, but scientists from countries not members of the organization may carry out research at the centre which is at Meyrin, near Geneva.

Pearl Culture in Australia

Both 'half-pearls' and 'graft-pearls' have been cultured. The technique of half-pearl culture is to insert a spherical mother of pearl nucleus beneath the mantle of the oyster, where it becomes coated with nacre and cemented to the shell. To prevent its initial extrusion, it must either be placed behind the adductor muscle or affixed to the nacreous shell border. When the pearl is removed, there will be a flaw at the point of attachment, and this must be covered in the jewel setting. Hence the name half-pearl. The technique of graft-pearl culture is to insert the nucleus within the tissues, and to place in contact with it a mantle graft from another oyster. The transplanted mantle tissue grows around the nucleus to form a pearl-sac, and in this new position secretes nacre around the nucleus, just as in its original position, it secreted nacre upon the shell surface. The result is a completely spherical pearl.

Of the nuclei inserted for half-pearl culture, 70% were retained. Periodic sampling showed that they became cemented to the shell within a month, and completely covered by nacre in three months. It is estimated that a half-pearl would reach marketable quality in 9-12 months. This represents the first production of cultured pearls in Australia.

Sound Microscope

A sound microscope is at present being developed whereby ultrasonic waves are passed through material and detected by a heat sensitive thermocouple embedded in a small portion of the specimen. The method is thought to be feasible but extensive development work estimated to take several years, is still required.

It is probable that the use of sound may further reveal unknown structures and boundaries, and confirm known structures of materials. The work is being carried out at the Bioacoustics Laboratory, University of Illinois, and is sponsored by the American Cancer Society.

Conference on High Polymers

A Conference on High Polymers is to be held at Nottingham University from 21 to 24 July 1958. Proceedings will be divided into two sections meeting simultaneously. Main subjects for discussion will be:

Section A (Reaction Mechanism and Kinetics): Heterogeneous polymerisation (including trapped or inactive radicals); and production of graft and block copolymers.

Section B (Physical, Thermodynamic and Mechanical Properties): Papers to be related to topics of Section A will be specially welcome, but discussion will not be restricted to those materials.

Abstracts should be sent to the International High Polymer Conference, the University, Manchester-13.

Symposium on Rare Metals

A Symposium on "Rare Metals" is being jointly organized by the Indian Institute of Metals, the Atomic Energy Establishment of the Government of India and UNESCO. The Symposium will be held in Bombay from 1st-5th December 1957. A number of eminent Indian scientists and technologists will participate.

Elasticity and Plasticity

A Scientific Conference, organized by the Polish Academy of Sciences, was held at Krynica, Poland, from August 2 to August 16, 1957. It was attended by 80 delegates from various parts in Poland. Prof. B. R. Seth of the Indian Institute of Technology, Kharagpur, attended the Conference and presided over one of the sections on plasticity.

Forty-five invited papers were presented before the Conference.

The inspiration of the Conference came from Prof. Olszak and Prof. Nowacki who have made a large number of contributions to this subject in recent years.

The main subjects discussed at the Conference were : (*i*) Theory of Plasticity of (*a*) Isotropic bodies, (*b*) Non-homogeneous and Anisotropic bodies ; (*ii*) Thermo-elastic problems ; (*iii*) Mixed boundary value problems.

250th Anniversary of the Technical University in Prague, Czechoslovakia

The Technical University of Prague has just celebrated the 250th anniversary of the foundation of technical schools by an International Scientific Conference, in which 135 foreign scientists took part.

At this Conference, 85 scientific papers were read, 39 of them by foreign scientists and the subjects covered all branches of learning dealt with at the Technical University of Prague, *i.e.*, building construction, architecture and civil engineering, mechanical engineering, electrotechnics, silviculture, geodesy, engineering economics, etc. The papers will be published in book-form in the language in which they were read.

The Scientific Conference made it possible for both Czechoslovakian and foreign scientists, and teachers of the technical schools of university standard to exchange their views and experiences.

Indian Academy of Sciences

The Twenty-Third Annual Meeting of the Indian Academy of Sciences will be held at Tirupati on the 28th, 29th and 30th December 1957, under the auspices of the Sri Venkateswara University. Sir C. V. Raman, F.R.S., N.L., will preside over the Meeting. Sri. N. Sanjiva Reddy, Chief Minister, Andhra Pradesh, is expected to inaugurate the Meeting.

Indian Science Congress

The Forty-Fifth Annual Session of the Indian Science Congress will be held at Madras from January 4 to 10, 1958, under the auspices of the University of Madras. Dr. M. S. Thacker will preside over the Session. Shri Jawaharlal Nehru, Prime Minister of India, is expected to inaugurate the Session.

Award of Research Degrees

Andhra University has awarded the D.Sc. Degree in Physics to Shri J. Satyanarayana Murty for his thesis entitled, "Diffraction of Light by Ultrasonic Waves"; D.Sc. Degree in Technology to Messrs. C. Venkateswarlu, R. Satapathy, and T. Gopichand for their theses entitled, "Applied Kinetic Studies of Vapour Phase Catalytic Esterification, Hydrolysis and Re-resterification"; "Studies on Condensation of Single and Mixed Vapours with and without Sub-cooling"; and "Studies in Pneumatic Conveying and Continuous Fluidization of Solids by Air" respectively ; and the D.Sc. Degree in Geology to Shri J. S. R. Krishna Rao for his thesis entitled, "Genesis of Manganese Ore Deposits of Visakhapatnam and Srikakulam Districts".

NOTICE

THE Offices of the Current Science Association have been permanently shifted to the Raman Research Institute, Bangalore-6.

All material intended for publication in *Current Science* and books for review may therefore be addressed hereafter to :

The Editor, *Current Science*,
Raman Research Institute,
Hebbal P.O., Bangalore-6.

Business correspondence, remittances, subscriptions, advertisements, exchange journals, etc., may be addressed as usual to :

The Manager, Current Science Association,
Raman Research Institute,
Hebbal P.O., Bangalore-6.

948-57. Printed at The Bangalore Press, Bangalore City, by C. Vasudeva Rao, Superintendent and Published by A. V. Telang, M.A., for the Current Science Association, Bangalore.