

HISTORY
NOT TO BE REMOVED
FROM
FILE.

THE
BRITISH SOCIETY
OF RHEOLOGY

BULLETIN — No. 2, 1960

Hon. Secretary :

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Pontypool,
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Hon. Editor (Bulletin) :

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THE BRITISH SOCIETY OF RHEOLOGY

New Members Approved 7th April, 1960.

NAME AND ADDRESS.	INTERESTS.
G. Capriz, 30 Greenfield Road, Stafford.	Hydrodynamic lubrication. Creep of metals. Flow of ceramics.
J. C. Guthrie, 65 Fog Lane, Didsbury, Manchester 20.	Fibres, high polymers. Mechanical properties related to structure.
T. E. Johnson, John Matthews & Co. Ltd., Vauxhall Road, Liverpool 3.	Paints and related systems.
H. A. Johns, West Lodge, Woodbury, Farley Hill, Reading, Berks.	Inks. Weissenberg rheogoniometer.
F. W. Ayscough, School of Chemical Technology, University of New South Wales, P.O. Box 1, Kensington, N.S.W., Australia.	Study of rheology as applied to ceramics, paint, plastics and rubber.
R. D. Bell, Taubmans Industries Ltd., Mary Street, St. Peters, N.S.W., Australia.	Paint materials and rotational viscometry.
R. H. de Vere, 36 Caernarvon Road, Up Hatherley, Cheltenham, Glos.	Coal, Metals. Methods of measuring dynamic moduli and viscosity of these materials at high temperatures.
T. C. Davenport, 8 Lynwood Close, Woodham Lane, Woking, Surrey.	Flow of waxy petroleum products.

Professor E. G. Richardson.

We regret to announce the death of Prof. E. G. Richardson, a founder member of the British Society of Rheology and President from 1957 to 1959. An obituary will appear in the next Bulletin.

News of Members.

In Bulletin No. 4 (1959) we reported the formation of two Australian Branches of the British Society of Rheology: one in Victoria and one in New South Wales. The situation now is that these groups have combined to form the Australian Branch. For administrative purposes

the Branch is based in New South Wales with Mr. L. Dintenfass of the University of New South Wales, Kensington, N.S.W., as Acting Secretary. The U.K. Committee has welcomed the formation of the new Branch and has agreed to its functioning as a virtually autonomous body. Elections to the Branch Committee are expected to take place at a General Meeting on 14th June.

The Interim Committee of the Australian Branch are sponsoring three series of lectures. The first, starting in June, will be a general introduction to rheology at a relatively elementary level. It will comprise eight weekly sessions each of one or two hours, duration. The second series will cover the mathematical background to an appreciation of rheological phenomena, whilst the third will be on the detailed application of mathematical techniques to the viscoelastic theory.

Recent Meetings.

The British Society of Rheology meeting at Manchester on the 7th and 8th April seemed to have been generally enjoyed by the 40 to 50 members present. It has been reported that the accommodation at Ashburne Hall and the lecture room facilities at Reynolds Hall were very good. In accordance with the custom of our Society the scientific programme was not overcrowded and good use was made of the time available to develop useful discussions. The scheduled visits to neighbouring laboratories took place once the organisers had solved all the problems set by last minute changes of mind by the prospective visitors. The staff of Ashburne Hall provided a most pleasant dinner on the evening of the first day.

It seems to be the rule rather than the exception to receive notices of meetings of our sister societies overseas just after a Bulletin has gone to press. By the time the next Bulletin is out the meetings have been held. The next three notices are in the "recent meetings" section for this reason. Whilst we shall continue to try and get earlier information about meetings we hope that meanwhile members will have some interest in learning what has been happening in other centres.

On 11th May, 1960, the Dutch Society held a meeting at Utrecht on "Mechanical, dielectric and stress-optical properties of polymers."

The following papers were read:

- "Streaming double refraction in polymer solutions," H. Janeschitz-Kriegl (Centraal Laboratorium T.N.O., Delft).
- "Dielectric measurements on polymer solutions," L. K. H. van Beek (Centraal Laboratorium T.N.O., Delft).
- "Dielectric and mechanical measurements on solid polyethylene," C. A. F. Tuijnman (Centraal Laboratorium Staatsmijnen, Geleen).

"Ultrasonic measurements on polyolefins," H. A. Waterman (Noordelijk Technisch Instituut T.N.O., Delft).

On Wednesday, 11th May, 1960, the Swedish Society held a conference in Stockholm. The guest speaker was Prof. F. H. Müller (Labor für hochpolymere, Marburg/Lahn). The papers were:

"On thermal measurements on polymers," F. H. Müller.

"Thermal effects in plastically deformed metals," H. U. Åström (K.T.H., Stockholm).

"On non-linear deformation," F. H. Müller.

"From a mathematical viewpoint is it convenient to use relaxation or retardation spectra for the interpretation of rheological measurements?" K. Bönke (A.S.E.A., Vasterås).

"Relaxation processes in high polymers," J. Kubát (Svenska Träforskningsinstitutet, Stockholm).

The two German Societies jointly arranged a colloquium at the Bundesanstalt für Materialprüfung, Berlin, on 23rd to 25th May, 1960. In a very busy programme the following papers were presented:

"The elastic behaviour of metals in the region of plastic deformation," H. Frinken (Gussstahlwerk, Witten/Ruhr) and E. Kappler (Universität Münster/Westf.).

"The contribution of the elastic stress field to the free energy of non-elastic changes of state," G. Rieder (Technische Hochschule, Braunschweig).

"The inner friction of molten metals and alloys," K. Köstlin (Inst. für Härterei-Technik, Bremen-St. Magnus).

"The temporal changes by creep processes of the pressure in clamps of electrical conductors," S. Wintergerst (Technische Hochschule, München).

"Deformation laws and flow processes in visco-plastic materials," A. Slibar (Technische Hochschule, Stuttgart).

"On the representation of viscoelastic flow processes by dimensional analysis," K. Wisseroth (Badische Anilin-u. Soda-Fabrik, Ludwigshafen/Rhein).

"On problems in the determination of molecular weight and molecular weight distribution of celluloses," Marianne Marx-Figini (Universität Mainz).

"On the flow properties of solutions of high polymers," I. Jacob (Filmfabrik Agfa, Wolfen).

"On new regularities in the flow properties of solutions of macromolecules," K. Edelman (Inst. für Faserstoff-Forschung, Teltow-Seehof).

- "The viscosity-Temperature relationship for liquids," J. Cornelissen, H. I. Waterman and J. A. Waterman (Philips, Eindhoven; Universität, Delft; Kon. Shell, Amsterdam).
- "On the viscosity properties of gelled systems," M. Joly (Institut Pasteur, Paris).
- "Automatic registration of the flow temperature of thermoplastics and the dependence of the flow temperature on molecular weight," K. Ueberreiter (Fritz-Haber Institut, Berlin-Dahlem).
- "The influence of low molecular weight swelling agents on relaxation processes in polyamides," K. H. Illers (Technische Hochschule, Aachen).
- "Dielectric relaxation of polymer solutions," L. K. H. van Beek (Centraal Laboratorium T.N.O., Delft).
- "The Molecular theoretical basis of the hydrodynamic equations of motion," R. Eisenschitz (University, London).
- "A new derivation of the energy equation for viscous liquids," M. Päsler (Technische Universität, Berlin).
- "Rheological measurements with the twin-cylinder viscometer," M. Matschinski (Soc. Française de Géochimie, Paris).
- "On the measurement of viscoelastic properties of materials using a rotational viscometer," W. Heinz (Gebrüder Haake K.G., Berlin und Düsseldorf).
- "Viscosity measurements on gases at high pressures and temperatures," F. Gebhardt (Vereinigte Glaswerke, Aachen).
- "Chemisorption and friction," H. Dunken (Universität, Jena).
- "The testing of bearing materials," R. Weber (Matallgesellschaft A.G., Frankfurt/Main).
- "Problems of gear lubrication," H. Rettig (Technische Hochschule, München).
- "Stress and slip between elastic rollers," H. Bufler (Technische Hochschule, München).
- "Dynamic testing of roller bearing lubricants," H. Diergarten and J. Stöcker (S.K.F. Schweinfurt).
- "Results of an investigation into the influence of colloidal graphite on the running-in of engines," J. U. Augustin (Technische Universität, Berlin).
- "Investigation of bearings in internal combustion engines," J. Holland (Eisenwerk Wülfel, Hannover-Wülfel).
- "On two extreme cases of non-stationary effects with crossed-cylinder bearings," K. Meiners (Escher Wyss G.m.b.H., Ravensburg/Württ).
- "Lubricants with the normal stress effects," K. Kirschke (B.A.M., Berlin-Dahlem).

Future Meetings.

The subject for the next meeting of the British Society of Rheology will be "*Rheology of Polymers.*" Contributions will be welcomed and should be sent to the Hon. Secretary, Dr. M. F. Culpin. The meeting will be held in Swansea on 8th, 9th and 10th September, 1960. During this period the Annual General Meeting of the Society will take place. It is likely that some of the present members of the committee will not seek re-election for next year. If any member would like to serve the Society on the Committee, or if any member knows someone who would be willing to do so, he should write to the Hon. Secretary.

Looking further ahead, a meeting on theoretical aspects of rheology may be held in Reading next spring, and later the Society may join with the non-destructive testing Group of the Institute of Physics.

The International Committee, through Prof. Dr. F. H. Müller (Philipps Universität, Marburg/Lahn), has made enquiries among the national societies about the venue of the *Fourth International Congress on Rheology* in 1963. As a result despite the failure of France and the U.S.S.R. to reply, and opposition by the British Society, the congress will be held in an eastern state of the U.S.A.

A conference on *Diamond Physics* will take place in the New Physics Laboratory of the University of Reading on 22nd and 23rd September, 1960. The organising secretary on behalf of the Physical Society is Dr. C. D. Clark, Physics Laboratory, Whiteknights Park, Reading, Berks. The headings of the four main sections are: Dissolution, Reactivity and Growth; Mechanical Properties; Impurities and Defects; Intrinsic Properties.

The ninth Japanese Annual Rheology Symposium will be held in Tokyo at Gakushuin University from 10th to 12th October, 1960, under the joint auspices of Japanese Chemical Society, Physical Society, High-polymer Society and Society for Testing Materials. The subjects will be (1) the rheology of disperse systems, (2) the rheology of high-polymers, and (3) rheology in general. General lectures will be prepared for each main discussion subject. Contributions from other countries are cordially invited. Any inquiries should be directed to the chairman of the organizing committee: Professor B. Tamamushi, c/o Gakushuin University, Department of Physics and Chemistry, Toshimaku, Mejiro, TOKYO, Japan.

Assistance Required.

John Wyeth & Brother Ltd., manufacturing chemists of New Lane, Havant, Hants, require a viscosity determination using a Brookfield viscometer. The liquid to be tested is a penicillin suspension and the viscosity is expected to be about 50 centipoises. Members who are equipped and willing to assist should contact J. D. Morgan Esq., at the above address.

Fletcher & Co.,
Printers, 39 Osborne Road.
Farnborough, Hants.