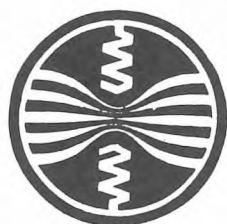


THE BRITISH SOCIETY OF RHEOLOGY

BULLETIN



1983, VOL. 26, NO. 4

CONTENTS

OFFICERS AND MEMBERS OF COUNCIL	I
EDITORIAL	III
1983 AGM MINUTES	51
..... REPORTS	53
CONFERENCE REPORTS	57
1983 GOLD MEDAL AWARD	60
NEWS MEETINGS	64
..... MEMBERS, ETC.	67
ADVERTISEMENTS	72

HON. EDITOR:
DR. H.A. BARNES
UNILEVER RESEARCH
PORT SUNLIGHT LABORATORY
BEBINGTON, WIRRAL
MERSEYSIDE, L63 3JW

ISSN-0045-3145

OFFICERS AND MEMBERS OF COUNCIL



PRESIDENT: MR. J.F. HUTTON, Thornton Research Centre, P.O. Box No. 1,
Chester, CH1 3SH.

SECRETARY: DR. J.J. BENBOW, Department of Chemical Engineering,
University of Birmingham, P.O. Box 363, Birmingham, B15 2TT.
(Telephone: 021-472-1301, ext. 2789).

TREASURER: MR. T.A. STRIVENS, Physics Section, Research and Development
Department, ICI (Paints Division) Ltd., Wexham Road, Slough,
Berkshire, SL2 5DS.

MEMBERSHIP SECRETARY: DR. P.C. ANDERSON, B.P. Research Centre, Chertsey
Road, Sunbury-on-Thames, Middlesex, TW16 7LN.

ABSTRACTS EDITOR: DR. D.R. OLIVER, Department of Chemical Engineering,
University of Birmingham, P.O. Box 363, Birmingham, B15 2TT.

BULLETIN EDITOR: DR. H.A. BARNES, Unilever Research, Port Sunlight
Laboratory, Bebington, Wirral, Merseyside, L63 3JW.

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Department, Sully, South Glamorgan, CF6 2YU.

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DR. D.C-H. CHENG, Warren Spring Laboratory, Stevenage, Hertfordshire
SG1 2BX.

DR. A. EVANS, Department of Surgery, Royal Victoria Infirmary,
Newcastle-upon-Tyne, NE1 4LP.

DR. C.J.S. PETRIE, Department of Engineering Mathematics,
University of Newcastle-upon-Tyne, Newcastle-upon-Tyne,
NE1 7RU.

MR. H. SCHIMANSKI, Contraves Industrial Products, 50 Cromwell
Avenue, Thame, Oxon., OX9 3TD.



The new Committee with an old friend. Unfortunately Ralph Oliver and Tony Evans had to leave to catch a train.

Standing:

Trevor Strivens, Howard Barnes, Peter Anderson, F Baker, Chris Petrie,
Steve Aldehouse.

Seated:

Harry Schimanski, John Benbow, John Hutton (President), Dr V G W Harrison (a Founder Member of BSR), David Cheng.

EDITORIAL

As I took over the editorship a year ago, the AGM passed a resolution that the cost of producing the Bulletin should be reduced by the introduction of camera-ready copy. This is the fourth to appear in that form and, on average, each issue has been produced at a saving of around £150 compared with the last few years costs. This results in an annual saving of ~ £600.

The new style has advantages and disadvantages - it means that to achieve cost saving (including extra typing, "contributors - own copy" is used whenever possible. This leads to a variety of type faces, but on the other hand, graphs, sketches and photographs (see this issue) can be produced at little or no extra cost. Odd spaces can be filled free, and production (theoretically) is quicker.

The reaction of the officers of Council has been positive, and no members have (yet) complained! This is however still a learning process, so please bear with us as we learn more 'on the job'.

The Bulletin continues to provide a channel for 'news and views' to the members.

MINUTES OF THE ANNUAL GENERAL MEETING 1983

The 43rd Annual General Meeting of the British Society of Rheology was held on Thursday 22nd September at 5.30 pm in No.1 Lecture Theatre, Department of Chemical Engineering and Chemical Technology, Imperial College, London. Thirty five members were present. Apologies for absence were received from three members.

1. The minutes of the 42nd Annual General Meeting had been circulated in the Bulletin Volume 25, No.4 (1982). They were approved and then signed by the President.
2. The Secretary outlined the steps taken to ask Professor A.I. Leonov if he will accept the honorary membership which members elected to offer him at the 42nd AGM. Letters had been sent first to his last known place of appointment and later to his home address. No replies has been received. Subsequently, a letter was written to Professor P.G. Drazin at Bristol University asking him to pass on a message on our behalf. There was no discussion on this item.
3. The President summarised the present situation relating to the severance of the Australian Branch of the B.S.R. and the founding of the Australian Rheological Society. The main points were:
 - (a) The Australian Branch is severing from the B.S.R. - as it is free to do so - consequently they will no longer be members.
 - (b) If the Australian Society want cheap copies of Rheology Abstracts it is Council's duty to make sure that B.S.R. does not jeopardise its own arrangements with Pergamon. This is top priority.
 - (c) The Abstracts Editor should consult with Pergamon Press to see if the Australian Society can also have special terms, then it is up to the Australian Rheological Society and Pergamon Press.
 - (d) Australian Society members can join B.S.R. as members and under rule 4(a) can be allotted special fees. We hope that the Australian Society will organise the mailing list for their own members.

The meeting passed a resolution giving Council full authority to continue on these lines.

4. The Treasurer presented his report for the period up to 30th June 1983. There was a brief discussion relating to the cost of the new computer and a request that last years details should be included to make comparisons easier. Dr. A. Evans proposed that the same auditors be appointed for the present year with a fee not exceeding by more than 10% that for 1982/83. This was passed nem-con.
5. David Cheng, the retiring Membership Secretary presented his report for 1982/83. He was warmly thanked by the President for all his work. This was supported by a special vote of thanks from the members. His report is appended below.
6. The changes in the methods used to print the Bulletin were enthusiastically welcomed, not least for their savings in cost.

7. In his verbal report for the year, the Abstracts Editor said that the inclusion of a section on patent information had proved popular. It was evident that the work of the Editor and the Abstractors in producing these valuable publications is much appreciated.
8. The Secretary's report is presented below. On the subject of travel to Acapulco, Professor Kirschke suggested that the two Societies pooled their information and considered a joint European arrangement. We have however, since learned that travel arrangements are being arranged centrally by the Congress Organisers in Mexico. The Secretary was thanked by the President for help during the year.
9. The Secretary listed the nominations for council membership received before the meeting. There being no other nominations the officers were elected unopposed. Seven nominations had been received for the six other vacancies. Dr. Mackley had written to say he did not wish to serve on Council. Dr. T.E.R. Jones retired after completing his period of office. A ballot was held with Drs. T.E.R. Jones and Missaghi as tellers. The full elected council for 1983/84 was elected as follows:

President:	J.F. Hutton
Secretary:	J.J. Benbow
Treasurer:	T.A. Strivens
Membership Secretary:	P.C. Anderson
Editor (Bulletin):	H.A. Barnes
Editor (Abstracts):	D.R. Oliver
	S.T. Aldhouse
	F.S. Baker
	D.C-E. Cheng
	A. Evans
	C.J.S. Petrie
	H. Schimanski

Dr. H.A. Barnes moved a vote of thanks which was warmly approved to Dr. T.E. Jones for his hard work both as Membership Secretary and a Council member.

10. Any Other Business.

Dr. V.G.W. Harrison, one of the founder members of our Society, spoke of his pleasure in finding that the aims of the originators are being maintained. There had been three features in particular, which they hoped to foster, namely a friendly club-like atmosphere, small membership fees and the minimum of formalities. In expressing his heartfelt appreciation to Dr. Harrison for his kind remarks, the President echoed the feelings of all members.

There being no other business, the meeting closed at 6.45 pm.

SECRETARY'S REPORT FOR 1982-83

One of the main activities of the Society has again been to organise conferences. Two have been held this year, one in Cambridge on "Rheology and Microstructure" in September 1982, the other at Imperial College London in April 1983, on "Rheology in Crude Oil Production". Plans are well advanced for a variety of meetings in the future. Details of these have been given in bulletins. The success of a conference depends to a large extent on hard work done by the organisers; they deserve our profound thanks.

In October 1984, there will be the International Congress in Acapulco, Mexico. Travel firms have been asked to quote for cheap travel fares. It would help if members who expect to use these facilities would let me know as soon as possible so that I can assess the numbers involved.

Members of the Society were saddened and shocked in October by the sudden death of Professor J G Oldroyd. He was awarded the Society's Gold Medal in 1980. As well as being an outstanding rheologist of world-wide renown, he was a keen supporter of the Society for many years. After being our Membership Secretary and Treasurer, he was appointed President from 1955 to 1957. The Society has made a contribution to the Oldroyd Prize fund.

A Gold medal has been awarded this year to Professor A S Lodge. The annual award for 1982-83 has been offered to and accepted by Professor D V Boger. It will be presented to him during the April meeting in Birmingham in April 1984.

The Australian Branch of the BSR has decided to found its own Society from the 1 October 1983. We wish it a happy and prosperous future, and look forward to close collaboration between the two Societies.

An application form was sent to each Society member with the notice of the AGM. These will give us all a chance to encourage our colleagues to join the Society. It has always seemed to me that one of the important aspects of our Society has been the encouragement it gives to young rheologists, and to those working in numerically minor branches of the subject. I also believe that cross-fertilisation between the different disciplines and the widely diverse materials we encompass is a unique feature of the Society. I hope we continue to foster a club-like atmosphere in the future.

John J. Benbow

BRITISH SOCIETY OF RHEOLOGY

REVENUE ACCOUNT for the year ended 30th June, 1983

<u>Expenditure</u>			1982
Council Expenses	1302		834
Bulletin Production Costs	1379		1724
Expenditure by Officers:			
Secretary	38	10	
Treasurer	18	-	
Membership, Secretary and Circulation	<u>724</u>	<u>680</u>	690
Professional Fees	92		88
Insurance	29		30
Annual Awards	240		350
Miscellaneous	94		106
Depreciation:			
Microcomputer	<u>434</u>		-
	<u>4350</u>		<u>3822</u>
Excess of Income over Expenditure	<u>2334</u>		<u>1621</u>
	<u>£6684</u>		<u>£5443</u>

Income

Annual Subscription and Entrance Fees	2805		2720
Publisher - Rheology Abstracts	2358		1519
Bulletin Subscriptions	110		32
Leaflet Circulation	75		
Investment Income:			
Bank Deposit Account Interest	422	628	
Redbridge Bond	174	175	
Inland Revenue (Tax Repayments)	<u>74</u>	<u>75</u>	670
			878
Conferences: Net Surplus per account		<u>666</u>	<u>294</u>
		<u>£6684</u>	<u>£5443</u>

Conference Account

Surplus: London Conference less expenses	<u>666</u>	<u>294</u>
1982 Newcastle Conference	<u>£666</u>	<u>£294</u>

BRITISH SOCIETY OF RHEOLOGY

BALANCE SHEET as at 30th June, 1983

<u>Assets</u>			<u>1982</u>
<u>Fixed Assets</u>			
Microcomputer	2174		
<u>Less: Depreciation</u>	<u>434</u>	1740	(0)
<u>Investments</u>			
Redbridge 9 $\frac{3}{4}$ % Bond	2500		2500
Trustee Savings Account	<u>2099</u>	4599	<u>1935</u>
			<u>4435</u>
<u>Current Assets</u>			
Cash at Lloyds Bank:			
Deposit Account	6947		6124
Current Account	729	7676	<u>454</u>
			<u>6578</u>
Sundry Debtors		<u>1121</u>	<u>1659</u>
		<u>15136</u>	<u>12672</u>

Liabilities

Current Liabilities

Sundry Creditors	<u>261</u>	<u>295</u>
<u>Net Assets</u>	<u>£14875</u>	<u>£12377</u>

Represented by:

General Fund as at 1st July 1982	12377	10604
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<u>Add: Trustee Savings Bank Interest</u>	<u>164</u>	<u>152</u>
	12541	10756

<u>Add: Excess of Income over Expenditure</u>	<u>2334</u>	<u>1621</u>
	<u>£14875</u>	<u>£12377</u>


 (Hon. Treasurer)

We have examined the books of account of the British Society of Rheology and report that to the best of our knowledge the above Balance Sheet and Revenue Account are in agreement therewith.

We have inspected the Membership Records.

Chancery House
 3 Hatchlands Road
 Redhill
 RH1 6AA
 12th September 1983

Chartered Accountants.

MEMBERSHIP SECRETARY'S REPORT

Annual General Meeting, 22 September 1983

The membership as at July stands at 664, composed of 393 home, 82 Australian Branch and 189 overseas members. This compares with last year's total of 671. The changes are as follows.

	1982/83				1981/82
	home	Australian Branch	overseas	total	total
New members	21	3	17	41	42
Resignations	22	7	2	31	35
Deaths	2	0	0	2	1
Membership ceased by Rule 4(d)	6	0	1	7	12
Change in address	-8	+2	+6	0	-
Net gain in members	-17	-2	20	1	-8

Included in the total are 32 in arrears with the 1982/83 subscription, compared with 38 last year.

Although the total membership has slightly increased during the four-year term of my office, the home membership shows signs of decreasing. This tendency can be reversed if every member is to recruit but one new member. To this end, the Secretary has circulated membership application forms with the notice of the AGM. It is hoped that members will make good use of the forms.

During the year, Professor G V Vinogradov and Drs J J Benbow and B A Toms have been elected into Honorary Memberships.

An Apple based microcomputer system has been purchased and Mr P C Anderson has begun to transfer membership records from the old filing cards and other bits of papers onto discs. In due course each member will be sent a copy of his/hers record to check for accuracy.

The system will replace the current mainframe computer mailing list, which is located about 250 miles away from the Membership Secretary, and it is hoped to provide a faster and more accurate response to members' changes in address. However, the system will not have extra-sensory perception and it will still rely on members notifying the Membership Secretary of changes in employment and/or home address. Please let the Membership Secretary know in good time so that communications and journals from the Society can reach you without interruption.

London 19-23 September 1983

This year's annual conference of The British Society of Rheology, recently held in London, was jointly organised with the Deutsche Rheologische Gesellschaft and the EFCE Working Party on Non-Newtonian Fluid Processing. Whether it was the general topic of Engineering Rheology, the location at Imperial College, London or the involvement of the three bodies, this conference was undoubtedly well patronised. It was very gratifying to see approximately 140 Rheologists from 17 countries including a number from beyond Europe. Our German, French, Dutch and Italian colleagues together easily outnumbered the British contingent. Perhaps I should have said English contingent as it was somewhat disappointing to see so few non-English British Members present. Even our American friends outnumbered them. It was particularly disappointing to see that no one from that Alma Mater of so many British Rheologists, Aberystwyth, was able to be present. It was also noticeable how poorly British Industry was represented. Fewer than half of the British were not from academic or government institutions. Of the small remaining number, a third represented manufacturers of Rheological equipment.

The Conference itself had a very full and interesting program of some fifty papers. These were divided into sessions on Fluid Mechanics and Transfer Processes, Rheological Techniques, Rheological Properties and Engineering Operations. The papers contained something for everybody, covering as they did the full range from esoteric theory to the purely practical. Speaking as one of the minority from the Industrial side, I'm sure I can't be alone in finding some of the presentations by the academics almost totally incomprehensible. It is difficult to understand how anyone can come so far to give a paper of excessive length comprising nothing but a series of mathematical expressions, frequently with very ill prepared slides overcramped with detail. Such papers do not exhibit superior intelligence but merely waste the time of those of us who had hoped to learn something. In addition they waste their own time as by overrunning they get no feedback from the audience when no time is left for discussion. We British, being the poor linguists that we usually are, must congratulate those of our foreign colleagues who did present some excellent papers. We all have great sympathy for those who do try hard in a foreign tongue, and for the younger inexperienced speakers having to present to such an experienced audience.

Not being one steeped in the mysteries of statistical mechanics, for me the most interesting features of the papers were the wide variety of elegant experimental techniques used. The use of Lasers to determine velocity profiles is no longer new, but their use with holography to visualise flow or sample deformations was most interesting. The use of electrochemical techniques, rotating prisms to freeze the action of stirrers and the use of pressure transducers both mounted flush and in holes to measure shear and normal stresses proved both fascinating and at times controversial. It goes almost without saying that one of the highlights of the conference was the Cold Medal lecture by Professor Arthur Lodge on the use of his Stressmeter to rheologically characterise elastic fluids from dilute solutions to molten polymers.

While we missed the acerbic tongue of some well known members, a number of papers generated some very interesting and lively discussions. It was inevitable that at times a fascinating debate had to be brought to a premature end for lack of time. Even so when one session ran an hour late, it was still well attended to the end.

A large amount of the credit for the success of this conference must go to excellent organisation by Prof Kirschke, Dr Cheng and particularly by Dr Geoff Maitland and his colleagues at Imperial College. It can be no fault of Geoff's that the standard of the toast, fried eggs and lasagne served in the canteen occasioned a number of comments about their rheological properties. However the excellence of the Conference Dinner on the Thursday more than compensated for this. The Society is indebted to the three Companies, listed in the

program, who sponsored the Reception and Dinner. The Dinner was also the occasion for the presentation to Professor Arthur Lodge of The British Society of Rheology's Gold Medal, only the sixth time it has been awarded. Once again this Annual Conference has proved to be also a very sociable occasion, highlighted by the late night gatherings in the Conference bar. The tradition that the BSR conducts its affairs more like a club was emphasized by the comments made at the AGM by Dr V Harrison, one of the three Founder members of the Society.

It is planned that the Proceedings of this Conference will be published as a special issue of Chemical Engineering Communications. The publishers, Gordon and Breach, have offered all participants a discount price of £10, provided they order a copy before June 30 1984.

P.C.Anderson

ENGINEERING RHEOLOGY: A REMINISCENCE

Starting with the pioneering work of Professor A.B. Metzner in the fifties, and increasing number of papers dealing with transport processes in rheologically complex liquids began to appear in the chemical engineering literature. In the late sixties, there was a distinct group of engineers, (chemical, mechanical, and civil) engaged in the research of mixing of slurries and polymers, reduction of turbulent drag, coating and extensional flows, polymer and paste processing, and heat and mass transfer in polymers and dispersions. We learned the language of rheology (which, at that time, was the language of continuum mechanics) and we looked for uncomplicated rheological models which would fit experimental flow curves but would not convert the Navier-Stokes equations into a nightmare. This pragmatic approach did not always go down well with classical rheologists but we continued presenting papers at their meetings. At the same time, the term "non-Newtonian" was gaining wider and wider circulation in the meeting programs of engineering societies although most engineers would still ask, after having heard a "non-Newtonian" paper, a question: "All right, but what is the 'real' viscosity of the sludge?"

It occurred to me, some time in 1973, that we engineers and rheologists have more in common than the other professionals would admit and that we should meet and talk to each other, if for no other reason than to put new strength into our hearts. The time, however, was not yet right. I did not manage to sell the idea of a Conference on "Engineering Rheology" either to my friends-rheologists or to my friends-engineers (for whom I changed the name to "Chemical Engineering Rheology") and so I decided to go it alone. In the end, Professor P. Schummer (who then organised the second Conference four years later in Aachen) gave me a hand and the first Conference was held in Salford in September 1974. Sixty four engineers came to hear about forty five papers ranging from drag reduction to diffusion coefficients in polymer solutions to mixing in polymerisation reactors to coating of cylinders. Somebody dubbed the Conference "The Meeting of Authors" since almost everybody in the audience was an author or a co-author. As a consequence, we had very lively discussions and, generally, a very good time.

The conference in Salford does not, however, mark the birthday of the term "Engineering Rheology". To trace this, we have to go back another ten years. When, in 1963, I was appointed Head of a small research group in the Czechoslovak Academy of Sciences in Prague, Professor V. Bazant, the director of the Institute of Chemical Process Fundamentals and my new boss, asked me to suggest a suitable name for this new Laboratory. "But do not come up with anything negative, such as 'non-Newtonian', he said, "it would not sell well upstairs!". Vladimir Bazant had a keen sense for words and he was an astute politician. When I suggested, a few days later, the term "Laboratory of Engineering Rheology", he liked it and the name stuck. Over the years, some good work has come out of LER and some of the most recent one was presented at the third Conference on Engineering Rheology in London in September 1983 by my early doctoral students, Dr. Kamil Wichterle and Dr. Pavel Mitschka, who (the latter) became the Head of LER after I left Prague.

The credit for having the Third Conference in London goes to Professors Kirschke and Pearson, representing the German and British Societies of Rheology respectively, who got together after the Congress in Naples and began making plans. It was a good Meeting and the work of Drs. Cheng, Kirschke, and Maitland, who put so much work into it, will not be forgotten.

Perhaps I may be allowed to paraphrase: L' "Engineering Rheology" n'est pas mort: vive la quatrieme conference!

Professor J.J. Ulbrecht

1983 GOLD MEDAL AWARD

The recipient of the 1983 Gold Medal Award is Prof. Arthur S Lodge. The presentation of the award took place at the conference dinner of the September Engineering Rheology Conference held at Imperial College.

The following pages contain the text of the speech made by John Hutton, BSR President, at the presentation. The photograph on this page shows the presentation, and the later one shows the medal with it's inscription.



GOLD MEDAL AWARD - 1983
PROFESSOR ARTHUR S. LODGE

ARTHUR SCOTT LODGE was born in Liverpool, graduated in Mathematics at Oxford and obtained his D.Phil. in theoretical nuclear physics. He joined the British Rayon Research Association in Manchester in 1948 and worked initially with Karl Weissenberg. He was immediately involved in basic questions of specifying finite strains for the deformation and flow of high-polymer systems. In a paper to the Second International Congress on Rheology (1953) he pointed out that some of the restrictions imposed by small-strain theory can be "removed by means of a known but not very familiar technique, namely that of using a convected or body-co-ordinate system ...". In 1983 the concept of convected - or body - co-ordinates is now very familiar to rheologists and this is largely due to Lodge, who quickly adopted the pioneering results of Gold Medallist J.G. Oldroyd.

The same paper introduced us to Lodge's network theory of polymer solutions which followed on from ideas of Tobolsky for solid polymers. The details of the network theory appeared in 1956 in Transactions of the Faraday Society. This theory was a great step forward in bridging the gap between continuum mechanics and molecular concepts and a number of others have used it as the basis of further developments.

Lodge moved to the University of Manchester Institute of Science and Technology in 1961 and continued his studies of the foundations of rheology. This period culminated in the well-known text-book "Elastic Liquids" : Academic Press 1964.

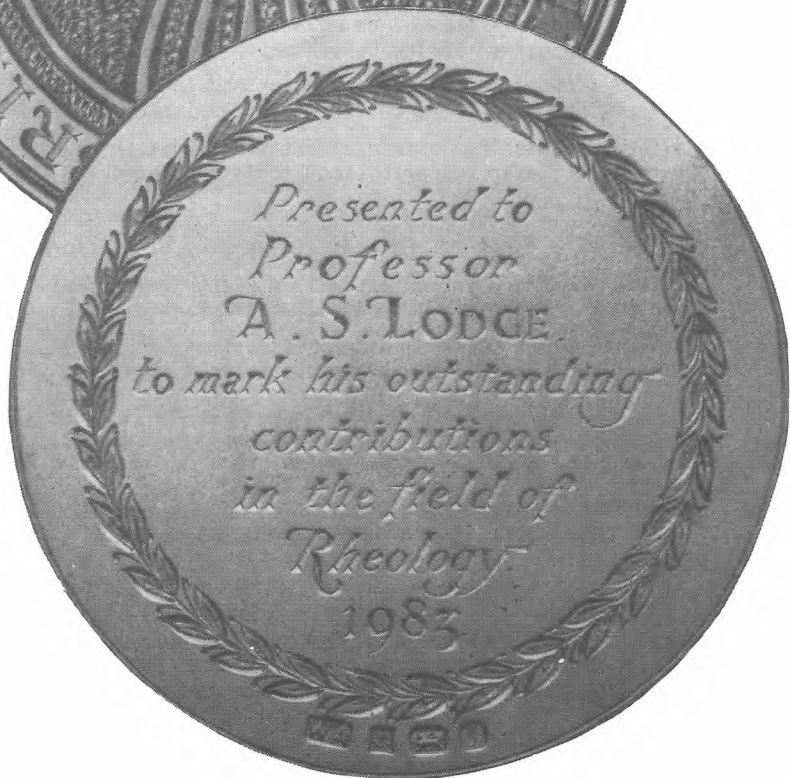
But Lodge was not only a theoretical rheologist. He was always concerned with the experimental facts and decided early on that he could not trust the published facts. That being so, he decided that he must make his own measurements, hence make his own instruments. He accomplished a great deal in experimental rheogoniometry evaluating and minimising errors. As an important example of his work in this area his group at UMIST discovered the hole-pressure error, and later work under his guidance found an explanation. It is typical of Lodge that having found this error he should turn it about and use the 'error signal' as a means of measuring the elasticity of a liquid. One such

instrument is the Lodge Stressmeter that his company, Bannatek Limited, now makes commercially. It is also one of his ideas to use the same measurement in a polymerisation-vessel to measure, and thereby control, the extent of the reaction. During this experimental activity Lodge became an expert in the design and construction of flush-mounted pressure transducers and he holds a patent for these devices.

In 1968 Lodge moved to the USA where he became the world's first Professor of Rheology at the University of Wisconsin, Madison. He is also one of many distinguished rheologists on the staff of the Rheology Research Center on the campus and is in fact Chairman of the Center. The work begun at Manchester has been continued with enthusiasm at Madison. On the theoretical side the book "Body Tensor Fields in Continuum Mechanics with Applications to Polymer Rheology" : Academic Press, 1974, is a distinguished piece of work. In it the author advocates the use of body tensor fields rather than components of space tensor fields. As mentioned above, his experimental work has now led him into a commercial venture with which we wish him every success.

Arthur Lodge was a member of the Council of the British Society of Rheology in the period 1955-65. He was awarded the Bingham Medal of the (U.S.) Society of Rheology in 1971 and therefore, as far as we know, becomes the first rheologist to receive the highest award of both the two oldest rheological societies. In 1980 he was the first recipient of the Byron Bird Award given by the College of Engineering, University of Wisconsin in recognition of his magnum opus "Elastic Liquids".

The British Society of Rheology is proud to include Professor Arthur Scott Lodge on its roll of Gold Medallists.



WET SOLIDS HANDLING AND PROCESSING

a one-day Symposium to be held on

Wednesday 22 February 1984

at

Joseph Crosfield and Son Ltd

Warrington

The symposium will consider aspects of handling a range of materials with significant moisture content such as damp powders, filter cakes, pastes and very high solids-content slurries which are normally difficult to handle or barely pumpable. The papers will cover both theoretical and practical aspects and will emphasise the systems approach to the handling and processing of such materials.

Provisional Programme

- 10.00 Registration & Coffee
Chairman: Dr B Yates, Unilever Research Laboratories, Port Sunlight
- 10.30 "Wet Solids Handling: what do we need to know?"
P L Bransby, Warren Spring Laboratory
- 11.10 "Laminar flow of concentrated suspensions in tubes"
R Oliver, Chem Eng Dept, University of Birmingham
- 11.50 "Filter cake washing in the solvent fractionation of oils and fats"
J Harris, Unilever Research Laboratories, Colworth
- 12.30 LUNCH
Chairman: Professor M F Edwards (University of Bradford)
- 13.45 "Paste preparation for driers within ICI Organics Division"
K Moore, ICI Organics Division, Trafford Park
- 14.25 "The manufacture of catalysts by extrusion"
J J Benbow, Chemical Engineering Department, University of Birmingham
- 15.05 TEA
- 15.20 "Handling radioactive ion exchange wastes"
A Curry and C P Haigh, CEBB
- 16.00 Closing remarks and overview
H Barnes, Unilever Research, Port Sunlight
- 16.30 Close

Registration fee (to include preprints, list of delegates, coffee, lunch & tea)

Members IChemE	£45,	Non-members	£55,	Students	£10
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Further details from Professor John Garside
Department of Chemical Engineering
UMIST
P O Box 88, Manchester M60 1QD

Tel: 061-236 3311 ext. 2106

1984

- 2-5 April Sheffield, England. Fundamentals of Deformation and Fracture.
J. Eshelby in memoriam (IUTAM/ICP/ICM)
- Contact Professor K. J. Miller, Department of Mechanical Engineering, University of Sheffield, Mappin St., Sheffield. S1 3JD, U.K.
- 10-13 April Bucharest, Romania. The mechanics of oil recovery (Euromech 178)
- Contact Dr. H. I. Ene, INCREST, Department of Mathematics, Bd Pacii 200, 79622 Bucharest, Romania.
- 11-13 April Birmingham, England. General Rheology (B.S.R.)
- Contact Dr. D. R. Oliver, Department of Chemical Engineering, University of Birmingham, P.O. Box 363, Birmingham B15 2TT, U.K.
- ?-? May Detmold, Germany. Rheology of Foodstuffs (DRG)
- Contact Professor K. Kirschke, Deutsche Rheologische Gesellschaft e.V., Unter den Eichen 87, D1000 Berlin 45, B.R.D.
- 25-27 June Essen, Germany. Influence of polymer additives on Velocity and temperature fields (IUTAM)
- Contact Professor B. Gampert, Univ. Essen Gesamthochschule, Fachbereich 12, Maschine technik, Postfach 103764 D-4300 Essen, BRD.
- 19-25 August Lyngby, Denmark. XVI International Congress of Theoretical and Applied Mechanics
- Contact Dr. N. Olhoff, ICTAM, Technical Univ. of Denmark, Building 404, DK-2800 Lyngby, Denmark.
- 29-31 August Brussels, Belgium. Mechanical characterisation of load-bearing fibre composite laminates (Euromech 182)
- Contact Professor A. H. Cardon, Vrije Universiteit Brussel, Faculty of Applied Sciences, Pleinlaan 2, 1050 Brussels, Belgium.
- 3-7 September Prague, Czechoslovakia. 8th CHISA Congress with European Symposia on Stress and Strain Behaviour of Particulate Solids and on Mixing of Non-Newtonian Industrially Important Fluids
- Contact 8th Congress CHISA '84, P.O. Box 857, 11121 Praha 1, Czechoslovakia.
- 4-8 September Moscow, USSR. International Rubber Conference
- Contact Professor V. A. Berestnev, General Secretary, "Rubber 84" Organising Committee, Krasnobogatyrskaia Street 42, Moscow 107258, USSR.

1985

?-? February ? U.S.A. 56th Annual Meeting (Society of Rheology)

Contact Secretary (J.R. Collier)

1-4 April Cambridge, England. 6th Churchill Conference on Deformation, Yield and Fracture of High Polymers (P.R.I., B.S.R.)

Contact The Plastics and Rubber Institute, 11 Hobart Place, London. SW1W OHL, UK.

??? Spring Berlin, Germany. Annual Meeting (DRG)

Contact Professor K. Kirschke, DRG e V, Unter den Eichen 87, D-1000 Berlin 45, BRD.

?-? May London. Rheology in the process industries (BSR, RSC)

Preliminary announcement,

Contact Dr. H. A. Barnes, Unilever Research, Port Sunlight Laboratory, Bebington, Wirral, Merseyside. L63 3JW, UK

?-? September ? U.K. Experimental rheology (BSR)

Preliminary announcement,

Contact Secretary (Dr. J. J. Benbow)

1-4 October Varna, Bulgaria. IVth National Conference on Mechanics and Technology of Composite Materials

Contact Dr. Ya Ivanov, Central Laboratory of Physico-Chemical Mechanics, Bulgarian Academy of Sciences, Acad. G. Bontchev. Str., IV km, BII, Sofia 1113, Bulgaria.

NEWS

ANNUAL AWARD - 1984

Members are reminded that nominations for this award should be made in writing to the Secretary before 30 March 1984. The award is made "by Council on behalf of the Society to an individual or a group of individuals or an institution for significant or promising contribution(s) and/or services to the advancement of rheology in any of its many aspects".

The new officers of the Dutch Society are:

President:	Prof. Dr. P.F. van der Wallen Mijnlief Techn. Univ. Twente-Physisch Dept. P.O. Box 217 - 7500 AE ENSCHEDE
Secretary/ Treasurer	Ir. W.S. Overdipe AKZO Res. B.V. P.O. Box 60 - 6800 AB ARNHEM
Membership:	Drs. F. Th. te Bats Dr. H.C. Booijs Dr. J.H. den Otter

In the USA the MacArthur Foundation has established one of its new graduate research university chairs at the University of Wisconsin. The first recipient will be our old friend Professor Byron Bird. Byron will use the funds to continue his research in polymer physics and rheology.

The first Society Award of the Japanese Society was presented to Professor Emeritus Hiromichi Kawai of Kyoto University for his achievements in the dynamic x-ray diffraction study for assigning the mechanical dispersion mechanisms of crystalline polymers. Three Awards for Younger Rheologists were presented to Dr. Toshiro Masuda of Kyoto University for this achievements in the study of the rheological properties of polymer liquids, to Dr. Kunihiro Osaki of Kyoto University for his achievements in the study of non-linear viscoelasticity of concentrated systems of linear polymers, and to Dr. Masao Doi of Tokyo Metropolitan University for his achievements in the study of the entanglement effects in the non-linear rheology of polymeric systems. Dr Doi spent a number of years at Cambridge with Professor Sir S. Edwards at the Cavendish Laboratory.

The following applications for membership were approved
at the September Council Meeting:

Marie Noelle LAYEC-RAPHALEN Doctorat d'état
Université de Bretagne Occidentale
Laboratoire d'Hydrodynamique Moleculaire fetsa DFGM
6 Avenue le Gorgeu
29283 Brest cedex France

Carole Ann MOULES
Warren Spring Laboratory
P O Box 20 fetsa FGJL
Gunnels Wood Road
Stevenage Herts
SG1 2BX

Prof. Jean-Michel PIAU Docteur es Sciences
Université Scientifique et Medicale
de Grenoble fetsa DFGJLN
Institut de Mécanique
BP no. 68, Domaine Universitaire
38402 Saint-Martin-D'Heres cedex
France

Isabel MILES BSc, PhD
ICI plc
Corporate Colloid Laboratory fetsa BCDFG
P O Box No 11, The Heath
Runcorn Cheshire WA7 4QE

David BERRINGTON BSc
Dept of Food Science
University of Nottingham fetsa DJL
Sutton Bonington
Loughborough Leics

Dr J A O'DONNELL Australian Branch
Royal Melbourne Institute of Technology
Dept of Chemical Engineering
124 Latrobe Street
Melbourne
Vic 3003 Australia

Michael David READ BS
Virginia Polytechnic Institute
and State University fetsa DG
Dept of Chemical Engineering
Blacksburg VA 24061 USA

Dr John Denis SHERWOOD
Dowell Schlumberger
Etudes et Fabrication
B P 90
42003 St Etienne cedex
France

MA, PhD
fts FG

Alan LAWTON
Blythe Colours Ltd
Cresswell
Stoke-on-Trent ST11 9RD

BTech
feta DFGHIO

Dr Neil A STEVENSON
Fisons plc
Science & Technology Labs
Pharmaceutical Division
Bakewell Road
Loughborough Leics LE11 ORH

BSc, PhD, MPharm, MPS
pea 0

Dr Amer KASIM
Robert Gordons Institute of Technology
School of Mechanical & Offshore Engng
Schoolhill
Aberdeen

BSc, PhD
feta FG

HONORARY MEMBERS

Professor G V Vinogradov and Drs J J Benbow and B A Toms have been elected to Honorary Membership at the July Council meeting.

RESIGNATIONS

J Batchelor, British Railways Board, The Railway Technical Centre, Derby.

H W Thomas, University College, Cardiff, Dept of Physiology

B Drake, Göteborg, Sweden

M J Stevens, Tideswell, Buxton, Derbyshire.

D Mistry, ICI PLC, Pharmaceuticals Division, Macclesfield, Cheshire.

J B Emerson, Metal Box plc, Wantage, Oxon.

K G Wilson, Blythe Colours Ltd, Cresswell, Stoke-on-Trent.

R A Weston, National College of Rubber Technology, London N7.

- K B Basir, Institute of Polymer Technology, LUT, Loughborough.
- L Boiy, Agfa-Gevaert NV, Mortsel, Belgium.
- Dr S de Jong, Unilever Research, Vlaardingen, The Netherlands.
- Dr P C Ebell, Institute of Polymer Technology, LUT, Loughborough.
- Dr Y Fanjeau, Institut Mécanique des Fluides, Toulouse, France.
- W C M Gorissen, Enschede, The Netherlands.
- Dr J-F Jansson, Royal Technical Institute, Stockholm, Sweden.
- E Jenkins, U K Wiseman Ltd, Kidwelly, Dyfed.
- Dr J F Johnson, Dept of Chemistry, University of Connecticut,
Storrs, Conn., USA.
- M S Kislalioglu, School of Pharmacy, London.
- D J King, Integrated Petronic Systems Ltd, Forestgate, London.
- B Lachaud, Esso Research Centre, Mont-Sant-Aignan, France.
- Dr J F McCabe, The Dental School, University of Newcastle-upon-
Tyne.
- C Marco, University of Mons, Belgium.
- I Ocran, Faculty of Pharmacy, University of Science and Tech-
nology, Kumasi, Ghana.
- P T Oittinen, Helsinki University of Technology, Forest
Products Dept, Otaniemi, Finland.
- J E Rudland, Tate & Lyle R & D, Reading, Berks.
- Prof. T Salomon, Jerusalem, Israel.
- Dr J Speakman, Laporte Industries Ltd, Widnes, Cheshire.
- D M Zuvcenko, National Adhesives Ltd, Slough.
- W M Cooper, Horsforth, Leeds.
- Dr A G Dodson, Guildford, Surrey.
- Prof. M A Hayes, Dept of Mathematical Physics, University
College, Dublin, Ireland.
- Dr G Jones, British Celanese Ltd, Spondon, Derby.
- Dr M A Lockyer, Dept of Engineering, Oxford Polytechnic.
- Dr A J B Spaul, School of Chemistry, Brunel University,
Uxbridge, Middx.

U N I V E R S I T Y O F S T R A T H C L Y D E



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List of Contributors:

- M. J. CROCHET, *Unité de Mécanique Appliquée, Université Catholique de Louvain, Louvain-la-Neuve, Belgium (Chap. 2)*
M. M. DENN, *Department of Chemical Engineering, University of California, Berkeley, California, USA (Chap. 6)*
R. T. FENNER, *Department of Mechanical Engineering, Imperial College of Science and Technology, London, UK (Chap. 4)*
S. F. KISTLER, *Department of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, Minnesota, USA (Chap. 8)*
J. R. A. PEARSON, *Department of Chemical Engineering and Chemical Technology, Imperial College of Science and Technology, London, UK (Chap. 1)*
C. J. S. PETRIE, *Department of Engineering Mathematics, University of Newcastle upon Tyne, Newcastle upon Tyne, UK (Chap. 7)*
S. M. RICHARDSON, *Department of Chemical Engineering and Chemical Technology, Imperial College of Science and Technology, London, UK (Chap. 5)*
L. E. SCRIVEN, *Department of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, Minnesota, USA (Chap. 8)*
R. I. TANNER, *Department of Mechanical Engineering, University of Sydney, New South Wales, Australia (Chap. 3)*
K. WALTERS, *Department of Applied Mathematics, University College of Wales, Penglais, Aberystwyth, Wales, UK (Chap. 2)*
J. WORTBERG, *Institut für Kunststoffverarbeitung, Aachen, West Germany (Chap. 9)*

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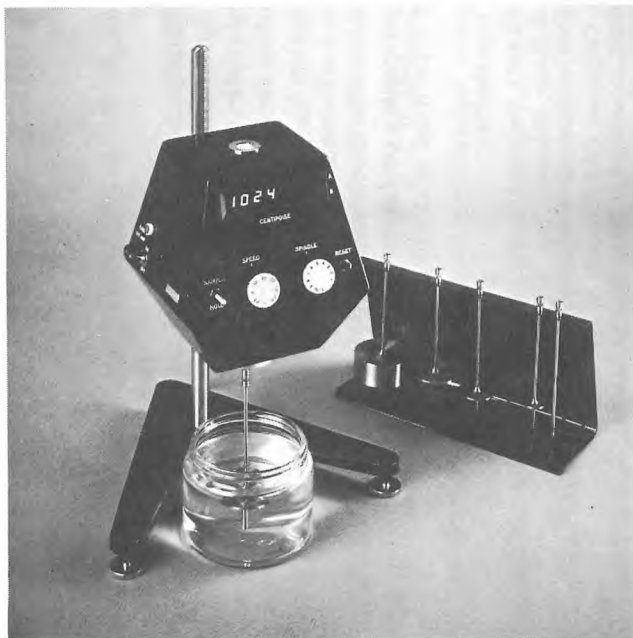
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