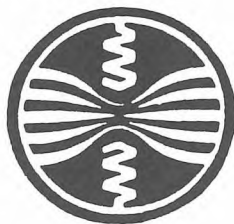


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THE BRITISH SOCIETY OF RHEOLOGY

BULLETIN



1987, Vol. 30 No. 3

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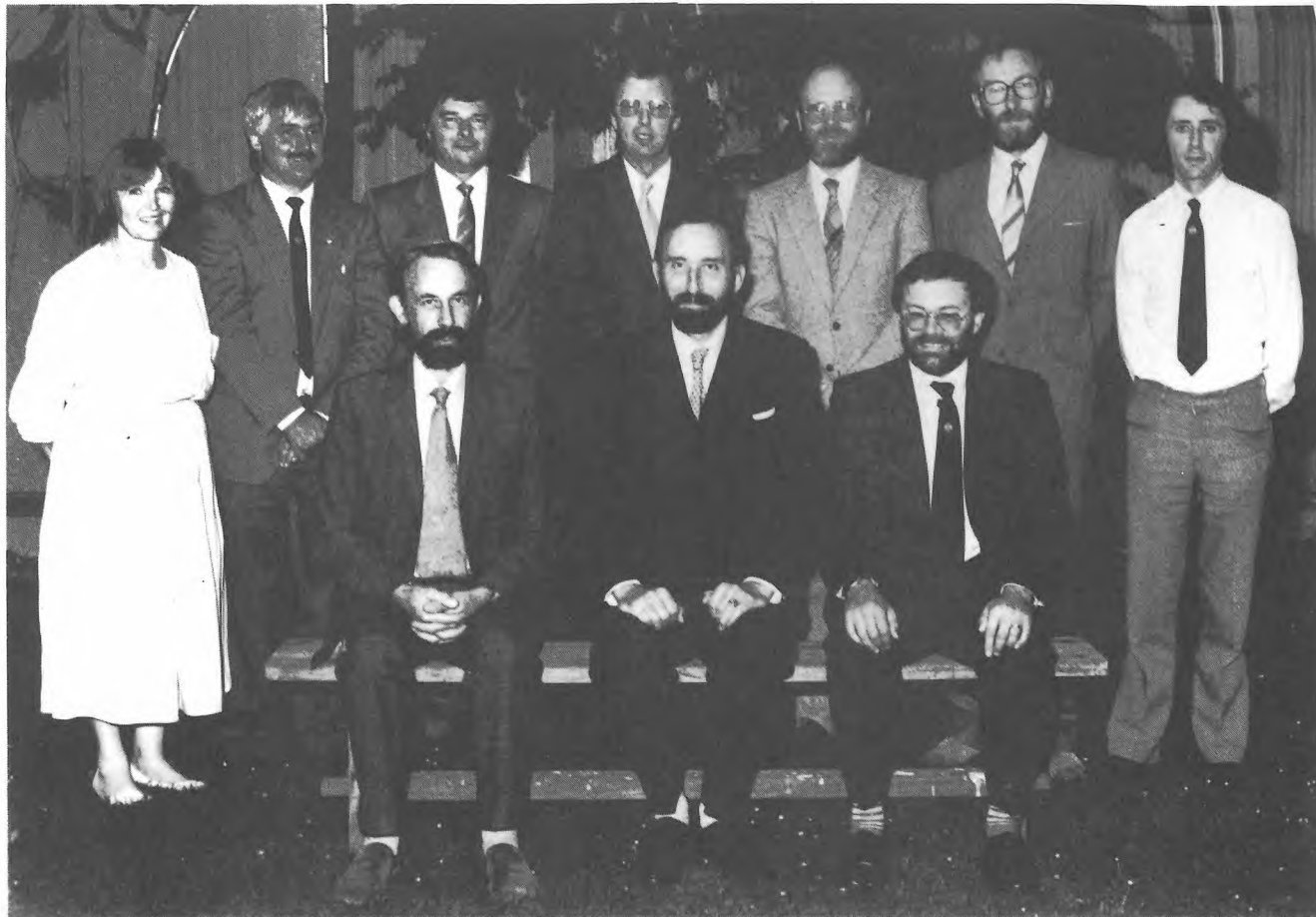
Hon. Editor
Professor P. Townsend,
Department of Mathematics
and Computer Science,
University College,
SWANSEA, SA2 8PP.



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THE BRITISH SOCIETY OF RHEOLOGY
OFFICERS AND MEMBERS OF COUNCIL
1987/88

- President:** Mr F N Cogswell, Imperial Chemical Industries PLC,
New Science Group, PO Box 90, Wilton Centre,
Middlesbrough, Cleveland TS6 8JE
Tel: 0642-432663 **Fax:** 0642-432444 **Telex:** 587461
- Secretary:** Mr R E Carter, Royal Ordnance plc,
Research and Development Centre, Sewardstone Road,
Waltham Abbey, Essex EN9 1AY
Tel. & Fax: 0992-713030 Ext.592 **Telex:** 267455 ROC G
- Treasurer:** Dr A Evans, The Compression Chamber,
Royal Victoria Infirmary, Newcastle-upon-Tyne NE1 4LP
Tel: 0912-328511 Ext.3250 or 3191
- Membership Secretary:** Mr H Schimanski, Carri-Med Ltd.,
Glebelands Centre, Vincent Lane,
Dorking, Surrey RH4 3YX
Tel: 0306-886180 **Fax:** 0306-885009 **Telex:** 859115 CARIN G
- Abstracts Editor:** Mr S T E Aldhouse, BP Chemicals Ltd.,
Research and Development Department, PO Box 21,
Bo'ness Road, Grangemouth, Stirlingshire FK3 9XH
Tel: 0324-483411 **Fax:** 0324-471697 **Telex:** 777513
- Bulletin Editor:** Prof P. Townsend, Department of Maths and Computer Science,
University College, Singleton Park,
Swansea SA2 8PP
Tel: 0792-295398 **Fax:** 0792-295532 **Telex:** 48358 UL SWAN G
- Ordinary Members:** Mr P C Anderson, Applied Physics Branch,
BP Research Centre, Chertsey Road,
Sunbury-on-Thames, Middlesex TW16 7LN
Tel: 09327-63351 **Fax:** 09327-62999 **Telex:** 296041
- Dr F S Baker, Royal Ordnance plc,
Research and Development Centre, Sewardstone Road,
Waltham Abbey, Essex EN9 1AY
Tel. & Fax: 0992-713030 Ext.470 **Telex:** 267455 ROC G
- Dr G J Brownsey, AFRC Institute of Food Research,
Norwich Laboratory, Colney Lane,
Norwich, NR4 7UA
Tel: 0603-56122 **Telex:** 975453 FRINOR G
JANET: UK.AC.AFRC.FRIN (BROWNSEY)
- Dr D J Hourston, Department of Chemistry,
University of Lancaster, Bailrigg,
Lancaster, Lancashire LA1 4YA
Tel: 0524-65201 **Fax:** 0524-63806 **Telex:** 65111 LANCUL G
- Mrs C A Moules, Rheo-Tech International Ltd,
120-122 Woodgrange Road,
Forest Gate, London E7 OEW
Tel: 01-519-5578 **Telex:** 897521 WMETAL G
- Dr D.R. Oliver, Department of Chemical Engineering,
University of Birmingham, PO Box 363,
Birmingham B15 2TT
Tel: 021-472-1301 Ext.3575 **Telex:** 338938
Fax: 021-471-4691



Council for 1987 - 1988

Back row, from the left : Mrs C Moules, Mr H Schimanski, Dr F Baker, Prof P Townsend, Mr P Anderson, Mr S Aldhouse, Dr G Brownsey
Seated : Dr A Evans, Mr N Cogswell, Mr R Carter . Not available for the photograph : Dr D J Hourston and Dr D R Oliver.

EDITORIAL

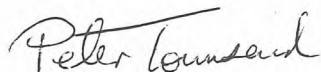
It is with great sadness that we record the death of Dr Bryan Toms. It is only last year that we were conferring on Bryan the annual award of the society. A full obituary appears later in the Bulletin.

A very successful conference on 'Entrance and exit effects' was held at Canterbury in September. A report will appear in the next issue of the Bulletin. Included in the meeting was the society's AGM, details of which, including officer's reports, are given in this issue.

At Canterbury the society was pleased to present to David Cheng the annual award of the society. This is recorded later in an article and photograph.

Your officers and members of council are also featured in a photograph. We welcome to the council Mr. H.Schimanski, the new membership secretary, Dr.A.J.Brownsey and Dr.D.J.Hourston. I'm sure members of the society would wish me to record our sincere thanks to Dr. J.J.Benbow who stood down from council this year after many years of service.

The society's tie - yes, it is still available and now in grey as well as navy. Why not have one of each? They are only five pounds fifty pence including postage. Contact the secretary if you are interested.



Peter Townsend

OBITUARY

Dr. Bryan Toms DSc

Bryan Toms died in Leamington Spa in early August after a short illness. His name will always be linked to the "drag reduction" effect which he discovered in 1946-48, opening up a new research field with many practical applications. An account of Bryan's career appeared in Bulletin No.3, 1986, but some further comments on the "Toms" effect are appropriate, and form a most suitable obituary.

It was first shown in 1974 that fish mucus is a most effective drag reducer; this broadens the range of the Toms effect to cases where man was pre-empted by nature. The barracuda, for instance, could not achieve its remarkable bursts of speed without the drag reduction mechanism. Some time ago the sport of yachting banned polymer injecting devices, probably because expensive high-technology systems seemed to offer unfair advantages to their users. The sea trials of the minesweeper H.M.S. Highburton in 1968 have now largely, been forgotten, but the drag of this ship was cut by 23 per cent by pumping polymer solution into the boundary layer and model tests were amply confirmed. I tried to discover, a few years later, whether the short-lived, thick layers of paint which are used on the bottoms of tankers exude polymeric substances, but all that was claimed was that barnacle growth was prevented. What is certain (though largely unpublished) is that several undersea weapons systems requiring silent, short bursts of speed make use of drag reducing principles. This conclusion is based only on common sense and the guarded replies of speakers at conferences.

Some benefits of the Toms effect are indirect. The nozzles used by the New York fire service are made smaller and more easily handled because polymer-added water is used. In the early stages of the building of the Alaska pipeline there were certain sections where the pumps broke down, or were not delivered on time. The temporary injection of suitable polymer alleviated the problem. The ready presence of cheap power in the form of oil makes the process less valuable on a long-term basis, however. The cutting of fairly soft materials in the furniture industry may be achieved using high-speed jets of water; by adding polymer the jet can be made faster and (the indirect benefit) more cohesive so that the cutting process is more accurate.

In oil well fracturing operations it is necessary to pump water to great depths at the highest possible speed to improve the efficiency of oil release. If the correct amount of polymer is added, it is possible in principle to **reduce** the turbulent drag in the pipe on the way down but to **increase** the effective viscosity of the "water" as it displaces oil from particulate beds, thus preventing "fingering" and displacing more oil.

Within the last decade, a suburban drainage system in Bristol needed to have its maximum throughput increased in order to cope with peak (storm) demands and the cheapest approach was to build a small polymer injection station at a suitable point in a long drain. Injection occurred automatically when the water level rose too much and the system achieved all its design objectives in a simple way. My own recent research using polyacrylamides (of molecular weight twenty five million) has shown that drag reduction can be detected at polymer concentrations as low as 0.02 parts per million; there is no evidence of this figure being bettered.

On a personal level, Bryan maintained regular contact with his friends in the Department of Chemical Engineering at Birmingham University, travelling every month or two from Leamington for coffee and lunch. He was always interested in events within the British Society of Rheology (in addition to acting as the Abstracts Indexer) and was quite delighted to be given the Society's Annual Award in 1986. An easy, avuncular disposition in conversation was matched to a more single minded approach to research. To quote his own words: a lifetime of bench research and development work suited his temperament well and allowed him to indulge an insatiable curiosity about the natural world. Needless to say, the "Toms effect" is his enduring scientific achievement.

THE BRITISH SOCIETY OF RHEOLOGY

Minutes of the 47th Annual General Meeting

The meeting was held in the lecture theatre of Eliot College at the University of Kent at Canterbury on Thursday, 3rd September, 1987.

The President, Mr F N Cogswell, was in the Chair. Thirty-five members were present. The meeting began at 6.05 p.m.

1. Minutes of the 46th Annual General Meeting

The minutes of the 46th meeting had been published in the Bulletin (Vol.29, No.3) They were approved without alteration and were duly signed by the Chairman.

2. Matters Arising from the Minutes

The President noted that a Vote of Thanks had not been recorded at the last meeting to Dr H A Barnes for his work as Bulletin Editor, and wished to correct this oversight.

3. Chairman's Remarks

Mr Cogswell said that he had returned to the Council of the Society after an interval of seven years, and was impressed by the continuity and stability of the Council. Despite changes in technology, rheology continued to provide ground for different universities, industries and disciplines to meet. This success was undoubtedly due to the hard-working officers and to the enthusiastic members of the Society. For organising the present conference, especial thanks were due to Dr Chris Petrie and to Mr Harry Schimanski of the British Society, and to Professor Marcel Crochet and Dr Jean LeBlanc of the Belgian Society. Mr Cogswell also thanked Dr Chris Petrie for his preliminary work in organising the Golden Jubilee conference at Edinburgh in 1990.

Dr John Benbow was retiring from the Council after many years service, and Mr Peter Anderson, having served for four years as Honorary Membership Secretary, was retiring from this office under the Rules. The President thanked both for their splendid service to the Society.

The Society had sponsored eleven UK students at a level of £250.00 each to attend the European School of Rheology held in France early in the year. Mr Cogswell expressed his concern about the lack of feedback from the sponsored students. Only three of these had written letters of thanks, although one of these had written three separate letters to different members who had supported their application for sponsorship.

The Society had sponsored the first Treloar Memorial Lecture, which was presented by Sir Sam Edwards in both Manchester and Leeds, and the President said that these were both stimulating and well supported.

The first Oldroyd Memorial Lecture was to be presented later in the year by Professor Ken Walters at Liverpool, Cambridge and Swansea. These meetings were recommended to the Membership by the president.

4. Treasurer's Report

The Honorary Treasurer, Dr Evans, distributed copies of the audited accounts for the past year (these are printed elsewhere in this Bulletin). Expenditure for the year totalled approximately £10,300, the increase over the previous year being due to the sponsorship grants to students and to the Memorial lectures. Also, the cost of printing the Bulletins was higher because thicker issues had been produced.

Regarding income, Dr Evans said that the high figure for advertising revenue was due to the entire such revenue for the previous four years being included in this year's accounts. The conference surplus was higher due to the Food Rheology conference at Norwich, organised by Drs Baker and Brownsey, making a profit of over £2,000.00. A figure of £37.00 in the accounts was due to an error in the previous year, when a refund of income tax had been inadvertently included twice in the accounts.

In summary, Dr Evans said that the financial state of the Society continued to be healthy.

This year, the Auditors, Simons & Co of Redhill, had produced the accounts in record time, and Dr Evans therefore recommended their reappointment. A Motion to reappoint the auditors was proposed by Dr J Benbow and seconded by Dr F Baker. The Motion was carried unanimously.

Dr Ferguson asked if the "professional fees" mentioned in the accounts were the auditors' fees. Dr Evans replied that this was the case.

Mr J Hutton expressed concern about the excess balance of funds, and asked what was the objective in maintaining a balance of £27,000? Dr Evans said that this was needed primarily as a float to cover the Golden Jubilee conference, the budget for which was expected to be in five or possibly six figures. After that meeting, Dr Evans thought that it may be possible to reduce the assets. Dr Oliver noted that the excess would probably be even higher after that conference. The President asked the Meeting for suggestions for funding activities.

Dr Petrie asked whether he should aim the budget for the Golden Jubilee meeting towards higher risk, i.e. less profit, for example by paying for the Society's guests. Dr Baker remarked that if there were a lot of guests, the money would not last for a long time.

Dr Aldhouse thought that the price should be pitched to give a reasonably low conference fee whilst aiming for a small profit. Mr Hutton agreed, and said that the 50th Conference should be a memorable occasion. However, he was concerned to note that an Officer had travelled by an inconvenient manner to attend the present meeting, and thought that Officers should travel in a civilised manner. The President said that Officers and Council Members travelled to meetings according to their needs, and claimed expenses accordingly.

Dr Baker said that, if a healthy bank balance was ensured, then the Society would be able to sponsor, for example, some Doctorates in rheology. The President noted that the Society had already increased its sponsorship activity in view of the available funds.

Professor Walters proposed that the Society invited one representative from other rheology societies to attend the Golden Jubilee meeting, and that registration and accommodation fees be waived for these guests, although the Society would not pay for the guests' travelling expenses. The Motion was seconded by Mr Aldhouse, and was carried with three against.

Dr Evans said that the object of the Society included the promotion of rheology to the public. He suggested that the Society sponsor a book to inform the public about rheology. The President invited the Membership to write to the Council on this topic.

5. Membership Secretary's Report

Mr Anderson distributed copies of his report to the Meeting. He said that the year had been fairly successful in terms of recruitment, with an increase in Membership of 27. The number of Members was getting back towards the level it had been at four years ago, before 80 members transferred to the Australian society. Three Honorary Members had been elected during the year, making a total of 54 Honorary Members.

Having completed four years in the post, Mr Anderson was stepping down. He said that he had enjoyed being Membership Secretary, and he thanked Mr Schimanski for standing for election to the post.

Mr Anderson proposed the Motion, published in the last Bulletin, that the Annual Membership subscription be raised from £5.00 to £6.00 for those Members not paying by Standing Order, to be effective from 1st October, 1988. The Motion was Seconded by

Dr A Evans, and the Motion was carried, with one against.

Dr Ferguson asked if the students sponsored to the European School of Rheology were now all Members. Mr Anderson replied that two had been Members at the time of sponsorship, and he had sent an encouraging letter to the other students. A further three of the students had joined as a result of this.

Dr Petrie noted that some conferences offered reduced rates to students, and wondered if such students should be obliged to apply for Membership. Dr Cheng asked if the Honorary Membership Secretary was happy with the level of membership, or whether an increase should be encouraged. Mr Anderson agreed that an increase in Membership would be beneficial. Mr Cogswell considered it right to encourage Membership, but not to insist.

Mr Schimanski noted that Membership fees accounted for only 25% of the Society's income, and wondered whether much effort in collecting outstanding fees might be avoided by abolishing the annual subscription completely. This produced much laughter but no seconder.

6. Bulletin Editor's Report

Professor Townsend said that he had just completed his first year as Bulletin Editor, and was still learning the job. The Bulletin was flourishing, and 13 articles had been printed during the year. Other articles were being encouraged. The last issue had calls for papers for some seven conferences. Professor Townsend invited papers to continue the theme of "Rheology at" various institutions, and asked that any contributions be submitted with a black-and-white photograph of the team members.

Advertising had attracted £1225, which was thought to be reasonable.

Professor Townsend made a plea to conference organisers to send in conference details well in advance of their own deadlines. Dr Petrie complained at the timeliness of issues, saying as an example that the last issue of the Bulletin had not reached Members until mid-August, which was somewhat late for potential delegates to the present conference. It was revealed that the delay had been at the printers. The President said that it was appropriate for a separate mailing to cover a conference, and that the Membership Secretary would arrange such a mailing. Dr Evans suggested that organisers of a September conference should aim to advertise in the issue of the Bulletin for which the copy date was the previous March 15th. Mr Cogswell said that the Council would take this into account.

Dr Evans drew attention to the pleasant appearance of the Bulletin over the last four issues, including a variety of typefaces. He thought that this improved the quality, and that the Bulletin looked more professionally presented than the Abstracts. The Meeting generally agreed with this sentiment.

7. Abstracts Editor's Report

Mr Aldhouse circulated his report to the Meeting, and a copy of his report is printed elsewhere in this Bulletin. The number of abstracts had increased during the year, and had recovered the items missed in the previous year. Mr Aldhouse was pleased with the range of topics, and wished to continue to increase the scope on applications of rheology.

Mr Aldhouse was concerned that the number of people paying to receive the Abstracts was falling, and considered that this was a pressing reason to maintain the coverage and standards. He extended his sincere thanks to all of the Abstractors, and said that he would welcome Abstractors of Journals which could be regularly covered, especially those listed in his report. Mr T McLeish said that he would abstract J Physics B.

Mr Aldhouse said that he was sad to announce the death of Dr Brian Toms. Dr Toms had recently resigned as subject indexer for the Abstracts, and had received the Society's Annual Award last year. He had the rare distinction of having a rheological effect named after him, due to his work on the effect of polymers in drag reduction. Mr Aldhouse said that Dr Toms was an outstanding figure in the science and promulgation of rheology, and that he will be sadly missed.

The post of subject indexer was still vacant, and volunteers were invited to contact Mr Aldhouse.

Mr Aldhouse offered his good wishes to Mr Pinfold, who had recently retired.

8. Secretary's Report

Mr Carter read his report, which is printed elsewhere in this Bulletin.

9. Election of Officers and Council

The President asked if there were any further nominations for the Officers of the Society, in addition to those published in the recent Bulletin. There being no nominations from the floor, the President declared the Officers elected.

Since there were eight nominations for six posts as Ordinary Members of the Council, a ballot was held, with Miss C Turner and Mr P Weaver being appointed as Tellers.

The Council for 1987 - 1988 was elected as follows:

Honorary Secretary:	Mr R E Carter
Honorary Treasurer:	Dr A Evans
Membership Secretary:	Mr H Schimanski
Bulletin Editor:	Professor P Townsend
Abstracts Editor:	Mr S T E Aldhouse
Ordinary Members:	Mr P C Anderson
	Dr F S Baker
	Dr G J Brownsey
	Dr D J Hourston
	Mrs C A Moules
	Dr D R Oliver

The President thanked Dr Folkes and Mr Strivens for their work as Council Members over the past year.

10. Any Other Business

Dr J Ferguson proposed a vote of thanks to the retiring Officers of the Society. He said that the Society had been extremely well run, and that the Members were extremely grateful to the Officers.

Ms S Pennington said that she was one of the students who had been sponsored to the European Workshop by the Society. She said that the meeting had been an immense success, and that she had found it to be very enjoyable. She observed that she would not have been able to afford to attend without the Society's sponsorship, and wished publicly to record her thanks.

Dr Petrie complained that he had received no information on the Bath conference, and that no registration form and costs were printed in the Bulletin. The attendance at that conference was reported to have been 80-90. It was generally agreed that meetings should be properly advertised, and that the onus was on the meeting organisers, not on the Bulletin Editor.

Dr Petrie recommended the use of electronic mail to Members, and welcomed Professor Townsend's notes on this subject in the last Bulletin.

Dr Oliver recorded some personal recollections of Dr B Toms, which are printed elsewhere in this Bulletin.

There being no other business, the meeting closed at 7.09 p.m

R E Carter
Honorary Secretary
18th September 1987

HONORARY SECRETARY'S REPORT FOR 1987 - 1988

As my first year as your Honorary Secretary draws to a close, I would like to record my thanks to Dr John Benbow, my predecessor, for the help and guidance which he has given to me, not to mention the two filing cabinet drawers full of the Society's archives!

No Gold Medal was awarded this year, and the Society's Annual Award will be presented to Dr David Cheng at the Conference Dinner immediately following the AGM. The citation for this award appears elsewhere in this Bulletin.

Two very successful meetings were held during the year. Last September, a conference on "Deformation of Solid Polymers" was organised by Mr Aldhouse and Professor Ward at the University of Leeds, and in Spring, a conference on the "Rheology of Particulate Solids" was organised at Bath by Messrs. Strivens, Goodwin, Buscall and Benbow. Additionally, the first Treloar Memorial Lecture, organised by Professor Ward, was presented by Professor Sir Sam Edwards at both UMIST and Leeds. The Society is indebted to the organisers of these excellent meetings for their hard work and tenacity.

Looking towards the future, Mr Cogswell and Dr Folkes are organising a conference at Brunel University in May 1988, on "Flow in Composite Materials", a meeting which is scheduled immediately before a Plastics and Rubber Institute conference on a related topic, "Short-fibre Reinforced Composites". Next year's September meeting is being organised by Mr P Anderson at the Royal Holloway and Bedford College, near Staines, and is entitled "Unsolved Problems in Rheology".

As well as acting as liaison officer with the European societies of Rheology, Dr C Petrie has put much work into the preliminary organisation of the Golden Jubilee conference, to be held in Edinburgh in 1990. This conference will also be a joint meeting with European Rheologists.

Professor K. Walters is to present the first Oldroyd Memorial Lecture later this year at Liverpool, Cambridge and Swansea. Entrance to these lectures is free, and I hope that many Members will be able to attend them.

The Tenth International Congress in Rheology is to be held in Sydney, Australia in August, 1988. Response to the travel arrangements so far has been promising. In brief, the fare is £850 (due for review in October), which allows for a flight out as a party, but delegates are free to make their own arrangements for the trip home, and the price includes one internal flight in Australia. Please contact me for further information.

Sales of the Society's ties are going very well, to the extent that only a few of the navy-blue ties remain. I now have a stock of ties with the Society's motif in white and red on a mid-grey background, at the same price of £5.50 including postage.

Finally, the Council has decided that the Secretary shall have an Amstrad word processor to make his life more bearable. Although there were reports in the press that Amstrad were in financial trouble due to over-stocking, this was clearly not with PCW8512 word processors, since this has been on order for over four months!

Roy Carter

THE GOLD MEDAL AWARD

Council makes an occasional Gold Medal Award for outstanding contributions to the Science of Rheology. Nominations for such an award should be sent to the President.

THE ANNUAL AWARD OF THE SOCIETY

Council makes an Annual Award for furtherance of the Science of Rheology. This award is designed to reflect either contributions made over a prolonged period or it can be used in appreciation of a particular contribution to the field including a single published paper. Council is always pleased to receive nominations for such an award particularly from the peers or supervisors of younger members of the Society whose contributions are judged to be of especial merit or promise. Nominations should be sent to the President.

MEMBERSHIP NEWS

The following applications for Membership of the British Society of Rheology were approved at the Council Meeting on the 26th of June 1987.

Mr Oladele AJAYI, Department of Chemical Engineering, University of Strathclyde, Glasgow, G1 1XJ	B.Sc. (Chem Eng) fesa D
Dr Cheryl V. AMBROSE, Glaxo Group Research, Greenford, Middlesex.	B.Sc., Ph.D. petsa FG
Miss Lynn BEATTIE, Department of Pharmacy, University of Strathclyde, Glasgow G1 1XJ	B.Sc. (Hons) MPS pesa F
Dr David J. BLOOMFIELD, Cookson Group Plc, Central Research, 7 Wadsworth Road, Greenford, Middlesex, UB6 7JQ	B.Sc., Ph.D. pea GI
Mr Allan J. CRIGHTON, The Development & Technical Centre, BCL Ltd., Bath Road, Bridgewater, Somerset, TA6 4PA	B.Sc. (Hons) peta CDG
Dr Merwyn F. DANIEL, Shell Research Ltd., Thorton Research Centre, P.O. Box 1, Chester, CH1 3SH	B.Sc. (Hons), Ph.D. pesa FGJ
Mr Stephen R.G. FLEW, Department of Civil Engineering, University of Bristol, University Walk, Bristol, BS8 1TR	B.Sc. fesa D

Dr Marifi GULER,
Department of Mathematics,
University of Strathclyde,
Livingstone Tower,
26 Richmond Street,
Glasgow G1 1XH

B.Sc., Ph.D.

fesa D

Mr Paul KONIGHAUS,
Twyford Bathrooms,
Alsager Factory,
Lawton Road,
Alsager, Stoke-on-Trent,
ST7 2DF

B.Sc., DMS, M.I. Ceramic

Fea BGHIJ

Mr Sune LARSSON,
Rheotec AB,
Science Park Ideon,
University Site,
S-22370 Lund
SWEDEN

M.Sc.

fetsa DFGHIJKLM

Mr R.J. MANGABHAI,
Department of Civil Engineering,
King's College, London,
The Strand,
London WC2R 2LS

B.Sc. (Hons), CChem, MRSC

pesa K

Mr Thomas C.B. McLEISH,
TCM, Cavendish Laboratory,
Madingley Road,
Cambridge CB3 0HE

B.A.

ftsa BDN

Ms Susan V. PENNINGTON,
Department of Applied Mathematics
and Theoretical Physics,
University of Liverpool,
P.O. Box 147, Liverpool,
L69 3BX

B.Sc. (Hons)

fets DFN

Mr Neil D. REDPATH,
Fasson Venture Centre,
Nelson Way,
Nelson Industrial Estate,
Cramlington, Northumberland

HNC

pea CDF

Mr Ajay J. SHAIH,
Humberside College of Higher Education,
School of Food Studies,
Nun's Corner,
Grimsby DN34 5BQ

HND, B.Sc., M.Sc., GRSC,
GIBiol

feta L

Dr. G.W.Scott Blair

It was with great sadness that as this Bulletin was in press news was received of the death on September 30th at the age of 85 of the founder of the British Society of Rheology, Dr George William Scott Blair.

A memorial service is to be held at 11 a.m. on Saturday November 7th. Any members who wish to attend should contact the Honorary Secretary for further details.

Dr. Scott Blair will be commemorated also at the Society's Annual Meeting in September 1988 at Egham. A full obituary will be printed in the next Bulletin.



Flour Milling and Baking Research Association

Rheologist - Food R & D

We are looking for a **RHEOLOGIST** to join a small team studying the physico-chemical properties of wheat flour components (starch, protein, etc.) and their interactions with other ingredients of dough systems. Complementary skills within this team include thermal analysis and surface chemistry. The overall aim of the work is to understand in rigorous physical terms how material properties of dough systems affect processability and final product characteristics.

People who have recently completed their PhDs are invited to apply although some post-doctoral rheological research experience, not necessarily in food rheology specifically, is preferable. Initial salary will be within the range £9,000 to £11,000 p.a.

Please send applications, including CV, a list of publications and the names of two referees to Professor B. Spencer, Director-General, FMBRA, Chorleywood, Herts. WD3 5SH as soon as possible.



Miss Marion SPANKIE,
Glaxo Group Research,
Greenford, Middlesex.

HND

petsa FG

Dr E.S. TARLETON,
University of Exeter,
Department of Chemical Engineering,
North Park Road,
Exeter, Devon, EX4 4QF

Ph.D. (Chem Eng)

petsa FGH

Dr William H. TUMINELLO,
EI du Pont Co. Inc.,
The Experimental Station,
Building 323, Wilmington,
Delaware 19898, U.S.A.

Ph.D.

fetsa CD

MEMBERSHIP MOVEMENTS

Dr Jean L. LEBLANC moved in April 1987 from Monsanto Europe SA in Brussels, Belgium to Montedison Coordination Centre SA, Rue de l'Industrie, 8, B-1400 Nivelles, Belgium.

RESIGNATIONS

Prof R.A. SCHUTZ, recently retired from ENSITM, Mulhouse, France. He joined the BSR in 1966.

CLASSIFICATION OF RHEOLOGICAL INTERESTS

The interests of members are classified in the official membership list according to the following scheme:

f	member's main interest is rheology
p	rheology is a secondary interest
e	approach is experimental
t	approach is theoretical
s	area of work is pure science
a	area of work is technology

A	metals
B	composites
C	solid polymers
D	molten or dissolved polymers
E	natural fibres
F	liquid-liquid systems
G	liquid-solid systems
H	particulate solids
I	glasses, ceramics
J	oils, greases
K	building and road materials
L	foodstuffs
M	biological materials
N	theoretical models
O	other systems

ANNUAL SUBSCRIPTION REMINDER

The annual membership subscription of £5.00 for the year 1987/88 falls due for payment on the 1st of October 1987. May I remind all members who have not paid in advance or who do not pay by Banker's standing order to send their payment now to:

**The Hon. Membership Secretary,
Mr. H. Schimanski,
Carri-Med Limited,
Glebelands Centre,
Vincent Lane,
DORKING, Surrey,
RH4 3YX**

It would be very helpful if all those members who do not yet pay by Banker's standing order, could arrange so to do. It would save a great deal of time spent in sending out individual reminders. The order, to pay £5.00 each year on the 1st of October, should be made payable to the **British Society of Rheology Membership Dues account, number 0180985 at Lloyds Bank, 20 North Street, Leatherhead, Surrey. (Branch code number 30-94-94)**. In addition please also notify me at the above address that you have so instructed your bank.

Overseas members, who pay their subscriptions in a currency other than Sterling, should add the equivalent of £3.00 to cover our exchange costs. A single payment may be used to pay for a number of years in advance and/or for any number of members to save exchange expenses. May I remind our North American members that a personal cheque in dollars has proved perfectly acceptable to our bank in the past. At present rates, \$8.00 (£5 x 1.60) per year per member plus \$4.80 per cheque is the amount to remit. For our European members, Eurocheques denominated in pounds sterling have proved acceptable. If used, please remember to write your card number on the back of the cheque, otherwise we do have to pay exchange expenses.

Members should note that as from the 1st October 1988 the subscription for those who do not pay by standing order has been raised to £6.00 per annum.

HONORARY MEMBERSHIP

It is with pleasure that the Society announces that the following members have been elected to Honorary membership of the British Society of Rheology for long and distinguished service.

Prof H. KOLSKY, United States of America. He joined the Society in 1959 and was our President in 1959-60.

'Harry Kolsky has been a pioneer of research into the rheological behaviour of solids and liquids at high strain rates for many years. His book entitled "Stress Waves in Solids" is a land-mark in the subject. In 1959 he was appointed President of this Society. For his contributions to the science of rheology I propose that Professor Kolsky is made an Honorary Member'.

Prof J. LAMB, the University of Glasgow. He joined the Society in 1960 and was our President in 1970-72.

'John Lamb has been an ardent supporter of this Society both as President from 1970 to 1972 and by the frequent contributions from both himself and his research team, to our conferences. His work into the viscoelastic properties of liquids at very high frequencies is well known and highly respected throughout the world of rheology.

He well deserves to be made an Honorary Fellow'.

Mr P. LAMB, Hertfordshire. He joined the Society in 1963.

'Philip Lamb is most widely known to rheologists for his own work, and later that of the team he managed, into the flow of molten polymers at the Plastics Division of ICI plc. at Welwyn Garden City. His research into flow defects and the links between rheology and polymer structure have been widely recognised.

Among his contributions to the B.S.R. was a highly amusing lecture on "The Management of Rheology" given at a conference in Bradford in 1969'.

BRITISH SOCIETY OF RHEOLOGY

REVENUE ACCOUNT for the year ended 30th JUNE 1987

<u>Expenditure</u>	<u>1987</u>	<u>1986</u>
Council Expenses	1992	1773
Bulletin Production Costs	2328	1458
Expenditure by Officers :-		
Secretary	86	45
Treasurer	21	7
Membership Secretary & Circulation	<u>819</u> 926	<u>923</u> 975
Professional Fees	156	150
Insurance	58	39
Awards	675	305
Miscellaneous	60	1376
Depreciation :-		
Microcomputer	436	436
Scott Blair Collection costs	242	454
Memorial Lectures	679	-
Student Grants	<u>2750</u>	<u>-</u>
	10302	6966
<u>Excess of Income over Expenditure</u>	<u>3057</u>	<u>2050</u>
	<u>£13359</u>	<u>£9016</u>
<u>Income</u>		
Annual Subscription and Entrance Fees	2743	2755
Publisher - Rheology Abstracts	3364	3573
Advertising Revenue	1650	260
Bulletin Subscriptions	300	20
Sale of Ties	164	-
Investment Income :-		
Bank Deposit Account Interest	2012	1465
Redbridge Bond	-	113
Inland Revenue (Tax Repayments)	<u>-</u> 2012	<u>49</u> 1627
Conferences : Net Surplus per account	<u>3126</u>	<u>781</u>
	<u>£13359</u>	<u>£9016</u>
<u>Conference Account</u>		
Surplus :		
Bath Conference less expenses	(25)	-
London Conference less expenses	426	-
Canterbury Conference less expenses	(112)	-
Reading Conference less expenses	(60)	1181
Leeds Conference less expenses	659	(200)
Norwich Conference less expenses	<u>2238</u>	<u>(200)</u>
	<u>£3126</u>	<u>£781</u>

BRITISH SOCIETY OF RHEOLOGY

BALANCE SHEET as at 30th JUNE 1987

<u>ASSETS</u>	<u>1987</u>	<u>1986</u>
<u>Fixed Assets</u>		
Microcomputer at cost	2174	2174
Less: Depreciation to date	<u>2174</u> -	<u>1738</u> 436
<u>Current Assets</u>		
Cash at Lloyds Bank :		
Special Deposit Account	23066	14146
Deposit Account	1541	3176
Current Account	<u>2678</u> 27285	<u>2332</u> 19654
Sundry Debtors	<u>142</u>	<u>4183</u>
	27427	24273
<u>LIABILITIES</u>		
<u>Current Liabilities</u>		
Sundry Creditors	<u>459</u>	<u>325</u>
<u>NET ASSETS</u>	<u>£26968</u>	<u>£23948</u>
Represented by :-		
<u>GENERAL FUND</u>		
At 1st July 1986	23948	21710
Add: Trustee Savings Bank Interest	-	188
Less: Income Tax Refund overprovided in previous year	(37)	-
	23911	21898
Add: Excess of Income over Expenditure in year	<u>3057</u>	<u>2050</u>
	<u>£26968</u>	<u>£23948</u>

... ANTHONY EVANS 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.

Chancery House
3 Hatchlands Road
Redhill, RH1 6AA
4th July 1987

ALFRED SIMMONS & COMPANY
Chartered Accountants

ANNUAL AWARD OF THE BRITISH SOCIETY OF
RHEOLOGY SEPTEMBER 1987

DR. D. C-H. CHENG

Most people will not be surprised to learn that David Chung-Hsun Cheng was born in China, in fact in the city of Amoy although he left at the age of 2 years and spent much of his early childhood with his family at Chengdu. From there he went to Hong Kong for four years, until 1951, before coming to the United Kingdom.

David's education continued at Perse School, Cambridge and thence at King's College, Cambridge where he took the National Sciences Tripos and Chemical Engineering Tripos. He followed this up with postgraduate research at Imperial College obtaining a doctorate in the area of gas/liquid critical phenomena.

In 1962 David joined the Materials Handling Division of the Department of Trade and Industry, Warren Spring Laboratory and commenced work on a variety of problems including the description and measurement of thixotropy, pipeline flow of thixotropic fluids, for which he designed a pipeline flow-rig, and viscosity measurement techniques.

After gaining the first of a series of promotions at the Laboratory, David turned his attention to the flow of powder from hoppers as well as continuing with the development of his earlier work. It was during this phase in his career that David's scientific contributions were first brought to the notice of the Society and he was awarded a Certificate of Commendation by the Council in recognition of his meritorious entry to the 1969 Gold Medal Competition.

By 1970 David had obtained further promotion to Principal Scientific Officer and became Deputy Head of the Materials Handling Division. The expanding activities in the development of rheometers, the pneumatic conveying of pastes, studies in mixing and the atomisation of Newtonian and non-Newtonian spray drier feed stocks culminated in his being awarded the 1972 Wolfe Award for the most outstanding contribution to the research work of the Department of Trade and Industry.

The burgeoning activities of his section led to further promotion to Senior Principal Scientific Officer in 1976 and the emergence of the Applied Rheology Group of which he was team leader. The reputation of his group and WSL in particular has been enhanced by the series of One-day Seminars on rheological topics which he initiated in 1980, followed by popular and successful practical training courses that many industrial and other users of rheological instruments will be grateful for.

The Scientific Civil Service in its wisdom bestowed on David the post of Deputy Chief Scientific Officer, as a merit award, thus ensuring that he received the recognition of his contributions to Rheology on a national and international scale but at the same time allowing him to continue his role in the Applied Rheology Group and not transferring him to other duties as would normally be the case.

His principal interest in this role is the long term development of the technical work of the section and ensuring that the work of his team, at the same time as advancing the science of rheology, is of direct industrial application. In line with modern developments of most measuring instruments for example, many advances have been and are still being made in providing computer software to make rheological testing and analysis faster and more comprehensive than has hitherto been the case. David's aim is to bring correct measurement techniques and data analysis combined with user friendliness to this area so that the work of the research worker and the quality control section is accommodated. His group are actively involved in developing software for the study of flow properties, product formulation and design of processing and handling equipment.

David's contribution to rheology is reflected in some 280 papers, reports and lectures. He has served on numerous committees and working parties for such organisations as the B.S.R., British Standards Institute, Chemical Society, Institute of Chemical Engineers, International Standards Organisation, Science Research Council and Water Research Centre.

One further field of expertise which makes David a much sought after figure is as the accompaniment to the Stilton and port. His reknown as an after dinner speaker has resulted in him presenting numerous speeches including the Silver Jubilee Dinner of Warren Spring Laboratory in 1984.

To sum up, it has been said that all the easy problems in rheology have been solved by people like Einstein but we are fortunate in having David to help us solve the more difficult problems which are left!



1987 Annual Award

The president of the Society, Mr N Cogswell (left) presents the 1987 Annual Award to Dr D C-H Cheng at the University of Kent at Canterbury.

Conference Diary

- | | | |
|-------------|---------------------------------|---|
| 16-18/11/87 | Toulouse,
France. | 'Rheologie des fluides industriels'
Groupe francais de Rheologie:
contact M. Remi Gaudu, Institut de Mecanique des
Fluides de Toulouse, 2, rue Charles-Camichel, 31071
Toulouse Cedex, France. |
| 16-19/11/87 | Chengdu,
China. | 'Second Chinese National Congress on Rheology'
Contact: Professor Han Shifang, Institute of
Mathematical Sciences, Chengdu branch, Academia
Sinica, Chengdu, P.R. China. |
| 18-22/1/88 | Chamonix,
France. | 'International Conference on Extensional Flow'
Sponsored by the European Economic Community:
contact Professor K. Walters, Dept of Mathematics,
University College of Wales, Penglais, Aberystwyth,
Dyfed, SY23 3BZ, U.K. |
| 11-14/4/88 | Cambridge,
U.K. | 'Deformation, Yield and Fracture of Polymers'
(Seventh international conference) Plastics and
Rubber Institute and other organisations
- contact Conference Office, P.R.I., 11 Hobart Place,
London SW1W 0HL, U.K. |
| Spring/88 | Canada. | 'Rheology and Processing of Polymers'
planned by the Canadian Rheology Group - contact
C.R.G. secretary. |
| 16-18/5/88 | Uxbridge,
Middlesex,
U.K. | 'Flow processes in composite materials'
British Society of Rheology - contact F.N.Cogswell,
ICI plc, The Materials Centre, PO Box 90, Wilton
Centre, Middlesborough, Cleveland TS6 8JE, U.K. |
| 14-20/8/88 | Sydney,
Australia. | 'Xth International Congress on Rheology '
contact Professor R.I.Tanner, Dept of Mechanical
Engineering, University of Sydney, Sydney, N.S.W.
2006, Australia. |
| 21-27/8/88 | Grenoble,
France. | '17th International Congress of Theoretical
and Applied Mechanics' IUTAM:
contact Professor D. Caillerie, Secretary ICTAM
1988, Institut de Mecanique de Grenoble, Domaine
Universitaire - B.P.68, 38402 Saint-Martin-d'Heres
CEDEX, France. |
| 7-9/9/88 | Egham,
Surrey,
U.K. | 'Conundra Rheologica'
British Society of Rheology
- contact P.C.Anderson,BP Research Centre,
Chertsey Road, Sunbury-on-Thames,Middlesex,
TW16 7LN, U.K. |

Rheology Abstracts at Sheffield University

A full collection of Rheology Abstracts is now available for use by all Society Members at the Library of the University of Sheffield. Recent copies of the Bulletin are also available.

The person to contact is :-

*Mr. W.J.Hitchens,
Deputy Librarian,
The University Library,
The University of Sheffield,
Sheffield S10 2TN*

Tel. 0742-768555 (ext. 4330)

J.J.Benbow

The Third Conference of European Rheologists

This is to be held on September 3rd to 7th 1990 at Edinburgh. At the present time this seems a very long time away but members are reminded of the importance of this meeting in that it will also be the Golden Jubilee meeting of the British Society of Rheology. Further information will appear from time to time in the Bulletin. The contact for further information is :-

**Dr. C.J.S.Petrie,
Dept. Engineering Mathematics,
University of Newcastle-upon-Tyne,
Newcastle-upon-Tyne,
NE1 7RU,
U.K.**



France, immediate opening for a postdoctoral in polymer solutions rheology and/or physics to participate in an EEC - supported cooperative research programme. Salary will be approximatively 130 000 FF/year. Some knowledge of French will be helpful but is not required. The position is open for ~18 months. Applicants must be EEC citizens and should send a resume and arrange to have 2 letters of recommendation sent to :

Prof. C. WOLFF
Laboratoire de Physique et Mécanique Textiles
ENSITM
11, rue A. Werner
68093 MULHOUSE CEDEX, France

Tél : 89 42 46 22

Télex : 881913 (CERMAT)

Mulhouse is a nice city very close to the borders of France with Switzerland and Germany (~ 35 km), to the Vosges (~ 35 km) and Alps (~ 100 km) mountains.

France, immediate opening for a graduate student to prepare a Ph. D in polymer solutions rheology and/or physics to participate in an EEC - supported cooperative research programme. Some knowledge of French will be helpful. Salary will be approximatively 85 000 FF/year. The position is open for 30 months. Applicants must be EEC citizens and should send a resume and arrange to have 2 letters of recommendation sent to :

Prof. C. WOLFF
Laboratoire de Physique et Mécanique Textiles
ENSITM
11, rue A. Werner
68093 MULHOUSE CEDEX, France

Tél : 89 42 46 22

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Unilever Research Laboratory
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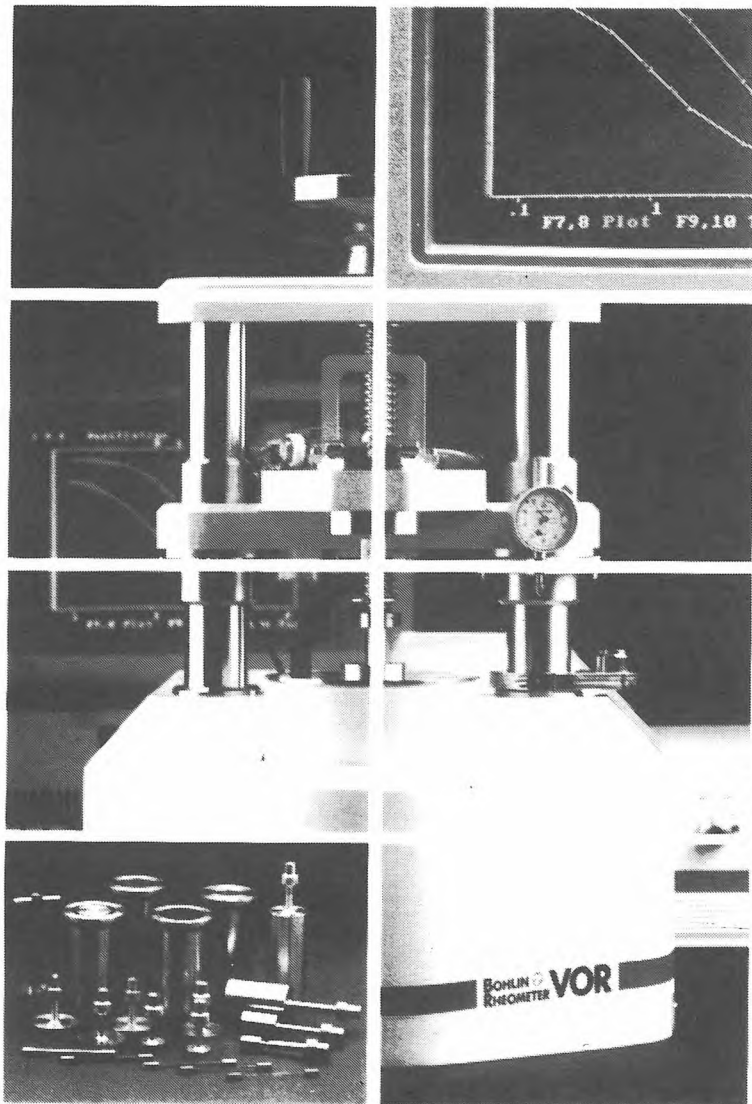
November 24th and 25th 1987

This two day seminar is organized by rheology specialists Carri-Med Ltd of Dorking. The seminar will cover both rheology theory and practice, with emphasis on industrial applications. Lectures will be illustrated with practical examples.

For further information please contact

Mrs A Cooke,
Carri-Med Ltd.,
Glebelands Centre,
Vincent Lane
Dorking,
Surrey.
Tel. Dorking (0306) 886180,
Telex. 859115,
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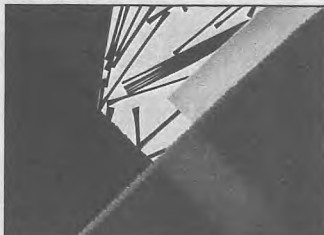
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