

10.00 - 11.00

SECRETARY

Pam Spence, 1 Waters Edge, Brighton Road, LANCING, West Sussex, BN15 8LN Tel No. 01903 752834 E-mail pam@astronow.demon.co.uk

Ray Ravenscroft, Glenville, Salters Lane, Lower Moor, PERSHORE, Worcs WR10 2PO Tel. No. 01386 860015 E-mail ray.a0027790@infotrade.co.uk Christine Sheldon, Whitehaven, Maytree Rd, Lower Moor, PERSHORE, Worcs, WR10 2NY Tel./Fax No. 01386 860202 E-mail cake@kcsheld.demon.co.uk

ISSN 1361 - 4126

EDITOR Ken Sheldon, Whitehaven, Maytree Rd, Lower Moor, PERSHORE, Worcs, WR10 2NY Tel./Fax No. 01386 860202 E-mail cake@kcsheld.demon.co.uk

Issue 48

**SPRING 1997** 

# FEDERATION OF ASTRONOMICAL SOCIETIES

# Will they get it?

That is the question West Cornwall AS must be asking as they get into the final stages of a multimillion pound Millenium Commission Grant for an Observatory, Planetarium and Educational Facility to be built at Falmouth.

The final decision is very close and we should be keeping our fingers crossed for them. It will certainly add to the Eclipse facilities if it can be completed in time.

## FAS AGM & CONVENTION Saturday 19th April 1997 Bestwood Lodge Hotel Bestwood Country Park Arnold, Nottingham

# PROGRAMME Roger O'Brien "Astronomy on a cloudy night"

11.00 - 11.30	Tea Break
11.30 - 12.30	AGM
12.30 - 14.00	LUNCH
14.00 - 15.00	Professor Andy Fabian (IOA Cambridge) "Getting close to Black Holes"
15.00 - 15.30	Tea Break
15.30 - 16.30	Alan Heath (Nottingham Astronomical Society) "Observing Saturn"
16.30 - 17.30	David Hughes (University of Sheffield) "Killer Asteroids"
17.30	Closing address Pam Spence (President FAS)

Admission is £4.50p pre-booked and £5.00 on the door.

Tickets from Ray Ravenscroft, Glenville, Salters Lane, Lower Moor, PERSHORE, Worcs WR10 2NY and please send an SAE A route finder will be included with this mailing to the Society Secretary. Don't forget too that Societies who book 6 places in advance

have free membership of the Federation for 1997/98 (not Insurance!)

Nottingham is a great place to take the Family - it has marvellous shops, great Museums including Nottingham Castle (remember Robin Hood), Lace and Fabric Museums and the Caves of Nottingham which is a great hands on experience.

FAS Newsletter 48 Spring 1997 programme. Note that this is a new number for Jerry! HUDDERSFIELD & DISTRICT P&AS The society meets at 4A Railway street on Friday nights 7.30pm - 9.30pm. talk to Philip Heppenstal on 01484 661497 ILKESTON & DISTRICT AS The Society meet at the Erewash Museum, Ilkeston and has a real programme of speakers on lots of different topics. The event for the future which caught my eye was the Bat, Moth and Sky Watch in Shipley Park on 16th August. Sounds interesting - we have bats whizzing around on summer evenings when we are looking at the Perseids. I like the Newsletter since it is about the Society and very informative because of that. Look forward to seeing IDAS at Nottingham. For details of the programme contact Mark Thomas on 0115 939 8133 or

AS of HARINGEY ASH have Web Site with

URL http://www.garvm.demon.co.uk/index.htm

They also have as usual avery full years

timetable with talks by Chris Lord. Duncan

Copp, Bob Forrest, Carl Murray and Konrad

Malin-Smith occupying the programme until

July. In fact speakers are booked through until

April 1988 Add to that visits and Quiz

meetings together with the 25th Anniversary

Convention to be held at Alexandra Palace at

the beginning of September and you can see

that if you live within reach of Ally Pally ASH

is a good place to be! Contact Jerry Workman

on 0171 609 2650 for more details of the

Dublin 11, and Stephen's telephone number from the UK is 00 3531 864 1382 for information on meetings and publications. LETCHWORTH & District AS Like many Societies LADAS are actively pursuing Hale-Bopp (and Mars) with 3 (ves THREE!) official Star Parties in March at the Society Observatory. There are also couple in both April and May which will be looking at Mars both months and Mercury during April. They do do things so Eric Hutton on 01462 626032 is the person to contact for further details of meetings

LIVERPOOL AS Contact Ken Clark at 31

Sandymount Drive, Wallasev, L45 0LJ with an

IRISH AS Stephen Rvan at PO Box 2547,

John Brown on 0177 376 8836.

SAE or on 0151 638 3270 for more details of the LAS programme. Alternatively try the Web http://www.liv.ac.uk/~ggastro/home.html MANSFIELD AND SUTTON AS MSAS have had a nasty shock - after running a WWW page online every evening they are to be charged online time by the local cable company. I look at the Net page occasionally since it has many immediate events - shuttle launches etc on it and I would be a little upset if it disappeared. Mind they have been lucky so far! Contact Graham Shepherd on 01623 552276 for more details of the problem and their programme alternatively log on to

SHROPSHIRE AS A busy observing/visits programme means that SAS members have plenty to do. For more details of forthcoming events which include a visit to the Powys

The Committee felt that having really top speakers giving the Society up-to-date research news was frightening beginners away. The idea has been mooted that a series of very simple lectures lasting only 30 minutes or so should help fill the gaps and give newcomers something that they could latch on to. It is an interesting idea and it will be interesting to see if it drives the cognoscenti away from the "Club Nights". Contact Ron Davey on 01386 830675 for more info. SALFORD AS Wed: Dec: 18th 96. Dr Allan Chapman's annual Christmas lecture to the society on "Sun- spots and Sun-men; Solar Studies from Galileo to Lockyer" self-explanatory title) was very well attended by own members, friends etc and members from other societies. At the end of the talk, summing up the accumulative discoveries of that period, he said. "By 1870, the wonderful bringing

www.innotte.co.uk/\_chenherd/index.html

NORTH EAST LONDON AS Meetings held

on the third Sunday of each month at Wanstead

House, Programme Secretary Andrew Lawrence

NORWICH AS NAW and recent open

evenings saw many hundred people through the

Observatory, with quite a few joining the

Society. This has brought the membership from

a low of about 30 just after our move to the

new Observatory - following a blight at the old

one of 5 years - to over 80 at present. As the advert says the future is bright, but not yet

Contact Malcolm Jones on 01508 578392 for

NOTTINGHAM AS NAS are hosting the FAS

AGM and Convention as you have probably

noticed - I'm sure that they are looking to

forward to having some time for Astronomy in

the rest of the year - they will still be

celebrating their anniversary but at a lower

pitch. Contact Carl Brennan on: 0115 938

ORWELL AS Together with the normal

observing sessions and speakers OAS(I) are

running four consecutive Hale-Bopp evening

viewing sessions for the Public on the evenings

of 11th to 14th of April. Nacton seems to have

reasonable skies so it looks like a good place to

be. I hope the weather stavs good to give

everyone chance to see H-B. I liked the short

guide to Astronomical Equipment in the

Newsletter. Contact Peter Richards on 01473

659806 for details of society activities. The

programme of speakers is as usual excellent but

I think that the committee are thinking how

they can use the first meeting of each month.

http://www.ast.cam.ac.uk:80/~ipswich/

STRATFORD upon AVON AS

4521 for details of programme.

on 01376 510329

orange!

Malcolm Jones

more details

Web page is:

evening Christmas Dinner at the Red Lion

Hotel Swinton. Dr Chapman and his mother

Members regularly binocular observing the

pre-dawn apparition of Comet Hale- Bopp.

reported late January seeing a coma half the

size and a fore-shortened tail twice as long, as

the full moon, on its passage through Sagitta.

brightening, nearing spectacular. When viewed

with naked eye, Mir and the shuttle were also

Sat: Feb: Ist. 5 members attended

European AstroFest 97. Their interest being

mainly in the astronomy and space exhibition

(the largest and most comprehensive in Europe)

they were unable to attend any of the lectures.

One member bought a CCD camera, another

bought Real Sky CD Roms and another

gathered vital information on buying a new

telescope. Further enquiries contact Kath

Redford (0161) 7943179 or you can try using

SAWTRY & DISTRICT AS A really lively

"new" Society in East Anglia with plenty of

nice ideas. Not sure about the license question

raised this time. Haven't had the results of the

AGM but I hope that the active committee

received the support it deserved. For meetings

details contact Brooke Norton on 01487

SCOTTISH ASTRONOMERS GROUP The

SAG Convention is planned for the weekend

12/14 September. SAG Editor Fiona Vincent is

celebrating 10 years in the job and looked back

"12 pages printed on a dot-matrix printer", "an

announcement at the AGM of a cut in

subscriptions to £2.!!!" I like the article on

Lunar Observing by Mike Fenwick but then

there is usually something meaty in the book.

Observatory and to Jodrell Bank contact

Chairman (and General factotum) David

Woodward on 01743 872991 or Programme

SOLENT AA With three meeting points -

Oaklands School for the normal meeting and

two Observatories SAA are well set up to serve

local astronomers around Southampton. They

have a varied speakers list covering "Mirror

making" by Brian Knight, "People and the story

of the Universe" Pam Spence (FAS Pres!),

"Evolution of the Telescope" Richard Flux (new

organiser of the Winchester Weekend and

Chairman of Vectis AS), "Astronomy on La

Palma" Konrad Malin-Smith, "Solar Eclipses"

Alan Drummond which cover the period to July

. Mind I should mention the July talk which

Ken Medway if he survives will be giving on

the "Mongolian Solar Eclipse". With a visit to

Secretary John Chidlow on 01743 249823.

SALFORDAC@AST.MAN.AC.UK

Email to

831683

Kath Radford

Progressively

est: mag: 2.5.

were the guests of honour.

together of astronomy and chemistry brought about the birth of modern astrophysics". Friday December 20th. 34 people enjoyed the

TO ALL SOCIETIES:

and if you have your own Web site, 'hotlink' through to it.

While I can pick up information from Ken, you might also like to send details directly to me. E-mail, nick@nquinn.demon.co.uk; telephone, 01903 814090; or snail mail 15 Newham Lane, Stevning, West Sussex, BN44 3LR.

As well as publicising your major events, (Conventions, public exhibitions etc.) in the Newsletter, we can also publish them for you on the FAS Internet Worldwide Web pages. We can include more information than in the Newsletter,

Nick Quinn.

FAS Newsletter 48 3 Spring 1997

### EDITORIAL It seems a pity on my last Newsletter to have to

start my editorial with a really abject apology for its lateness. After recovering from a real virus I acquired a couple of much more frustrating viruses called form d and Beijing which has slowed our computer down to the speed of a Spectrum or Electron. Working with Wordperfect as I have for the last twelve years it is frustrating and annoying to find that it now takes a couple of minutes to update the display at the end of a page or in the case of a Text Box such as the AGM notice at the end of each Incidentally I reformatted drive C: and

contrived due to something I don't quite understand to lose all the data on Drives E and F. I can't use the CD-Rom and no doubt other things will crop up.

After a week of fiddling I feel that frustration or not I should get on and finish it!

(latest - I bought an Anti-virus Toolkit and all is well except for!) Incidentally isn't Hale-Bopp beautiful, really living up to all the hype.

The other thing I need to make a point of is the success of West Cornwall in the Millenium stakes - I know that between us Bill Eaves and I had a go at them in the last issue but it looks as though they have come good for Astronomy in one location but I hope that they don't fund

any floodlighting for the Observatory. I also should mention that what I called a letter from Bill Eaves was in fact a personal E-mail which I had permission to print but it was of course written in a less formal and chatty style than a real letter would have been. Bill does in fact write good English when not on the Net! Thank you all for your support over the past seven years and I would like to wish my successor all the best. Clear and Dark Skies,

Ken Sheldon

## HIGHER EDUCATION FUNDING FOR COUNCIL FOR ENGLAND Is there is anyone (possibly newly

retired) from work in a college and familiar with that environment? We have details and application forms to join a team of researchers looking into

the teaching of Astronomy (and other subjects). The work is not to be taken lightly or embarked upon without suitable experience, but it is paid. Contact Christine Sheldon for details if you think you would be interested.

## FUND RAISING IDEA.

Observational Astronomy.

This booklet by Steve Lubbock has been revised and reprinted. The FAS sell it for £2.00 per copy.

Societies may buy copies at £1 each and sell them within the society and at star parties or other public events for a higher price to make money for society funds.

# SOCIETY NEWS ROUNDUP

Please remember that there will be a new Newsletter Editor after the AGM and news for inclusion in the FAS Society News Roundup should go to him/her. AYLESBURY AS I had a little smile when I

read the AAS Bulletin for February and the Editor had to apologise for not including everything he had been given. That I believe has to be a really nice situation to be in. The activities include regular observing sessions as well as the speaker programme. I also like the Questions and Answers in the Bulletin where members questions are answered by members of the Committee. For information on AAS's activities contact Peter Biswell on 01296 85125 for programme

BEDFORD AS I don't know how it happened but I managed to miss BAS's 10th Birthday still better late than never HAPPY BIRTHDAY!! I must say that the editors and other contributors to BAS's The Newsletter did produce a very readable and in the case of the Feb 1997 issue a pretty cover. On reading that it sounds a bit unfair since one of the things about it has been the images on the front page. Congratulations must go to Dave Geldart for his output. Contact Peter Cox on 01234 354552 for Society info and an up-to-date programme of events (which has included Paul Money in the last month) or look on internet for http://www.powernet.co.uk/ html/bas/basevent.html (long isn't it!)

BOSTON ASTRONOMERS Paul Money has been entertaining the world of E-mail with his accounts of Hale-Bopp. There are some advantages in living off the end of the world when it comes to astronomy. BA have been having their usual good selection of talks. More details are obtainable from the Secretary Lorraine Kendall at 18 College Park, Horncastle, Lincolnshire, LN9 6RE Tel: 01507-524037

BRIDGEND AS I tend to think that the only Society that I know of who has a better speakers programme than Stratford-upon-Avon AS is Bridgend. The range is enormous. Clive's list of professionals for the next few months has Dr Leonid Grishchuk with "The earliest galaxies revealed". Dr Anthony Whitworth "Ashes to Ashes, Dust to Dust", Dr Geraint Owen with "The Origin of the Earth" (I'm glad about that - I know Geraint from my time with the South Wales GA and the Earth is a bit of Astronomy, isn't it?), Prof Victor Clube "Giant Comets and Cosmic Catastrophes". This is not to denigrate the other top speakers -Martin Griffiths, Dave Eagle, Howard Davies and Pam Spence. The Newsletter is a good read. The BAS are involved in the South Wales Societies Convention. Their meetings are held on alternate Fridays in Bridgend Bowls Centre. Contact Clive Down on 01656 740754 for details of meetings. CAMBRIDGE AA and CAMBRIDGE

YOUNG ASTRONOMERS produce a good newsletter called Capella which has some very interesting articles and some great photographs - there are about half-a-dozen Societies (ASH, CAA, Bridgend, Bedford, SUAAS to mention a few) who manage to reproduce really lookable

at pictures and I envy them. This issue is another one with good pictures of people working on the 16" telescope and on the Observatory. The reading is very fascinating and I particularly like Ron Harris's story of the aftermath of the discovery of Neptune, Alex Simpson's "White Holes" and Anne Greenwood's "Comets". I also liked the writeup on Project Cyclops. Keep at it! CAA can be found at http://www.mrc-dunn.cam.ac.uk/caa/caahome.html

For membership details, contact Membership Secretary, David Herbert, 67 Howard Close, Cambridge, CB5 8OU CASTLE POINT AC who meet at St Michaels Hall Dawes Heath every Wednesday have a

new Secretary Andy Turner who can be reached on 01702 258640. CARDIFF AS as one of the organising Societies of the South Wales Societies

Convention have had a busy period. The Convention which is to be held on Oct. 11th 1997 at the Techniquest Science Centre, Cardiff Bay. The speakers are Professor Sir Martin Rees, Dr Mike Edmunds, Dr Patrick Walters, Dr David Dunbar. Admission is FREE but by ticket only. For more information contact Theresa Cooper tel: 01446-700722 or visit the site at http://users.aol.com/astrowales/

CORNWALL AS CAS are progressing and

had their AGM in January. I have not had the latest positions but I am sure that if you need or want to know about the Society you should still contact Mick Harvey on 01326 377294 for more details.

SOCIÉTÉ GUERNESIAISE ASTRONOMY SECTION In the very latest Sagittarius I see that there might be another Channel Island observatory and who knows maybe a Jersey Society. Talks on "Planetary Geology"by Mick de Pomerai and "The Moon" with Geoff Falla are on the programme. The Association will be holding Comet viewing sessions for the Public and have achieved a fairly high profile on the local radio and

newspapers. A comprehensive observing programme is in existence. If you are heading towards Guernsey for your holidays contact Geoff Falla the Hon. Secretary on Guernsey 724101 for more details of the programme. Alternatively look at http://dspace.dial.pipex.com/town/estate/vs76/a

strosec.htm HAMPSHIRE AG The HAG lecture programme is complete and has a good coverage of many aspects of Astronomy Dr Francisco Diego (Remember his talk at Cambridge about the involvement of Amateurs in Astronomy) on "Total Solar Eclipses", Geoff Kirby on "Fringe Astronomy", Norman Walker "What you wanted to know about Astronomy but never dared ask", Storm Dunlop with "Supernovae" and in June Jerry Workman with

"The Planet Mars". Observing still features high on the HAG priority list but with the telescopes available why should that be a surprise? A WWW presence is planned but is not yet there. The person to contact for details of the programme is Roy Dodd on 01705 646875

Sevenoaks planned (Henry Hatfield's Solar Observatory) and the "regular" observing sessions plus a club competition SAA seems like an active setup. If you want information on the programme contact Ken Medway on 01703 VECTIS AS It must be great to live on a island like the Isle of Wight with a good local

society. I was thinking that many of the queries we (the FAS) get about "Where is my nearest Soc?" usually results in comments such as "That's too far!" when you say that it is 15 miles away. Mind with the VAS programme that would not be too far to travel. The New Zenith carries a lot of info about the VAS involvement with the public including NAW schools competitions. I must congratulate John Smith on his "appointment" as a regular contributor on CCD imaging for AN. For more news of events contact John Smith on 01983 865451 or write to him at 27 Forest Road,

WEST CORNWALL AS Excitement is reaching its peak in the Falmouth area with the Millenium Commission's proposed award reaching its critical stages. Despite that the Society continues with a normal programme - if that is possible with the new Observatory and Planetarium looming large. Contact Robin Waddling on 01326 316981 for more. WEST OF LONDON AS Active both with

Winford, Sandown, I.O.W. PO36 0JY

observing sessions WOLAS have regular speakers at either Uxbridge or at Wealdstone. The next two are Owen Brazell talking on "Planetary Nebulae" and Dr Alan Penny from RAL with "The Search for more Planets". Observing sessions and observing weekends loom large in the near future together with a request for telescopes to be present at an Ealing Borough event. WOLAS have also setup a PC User group to train members in the use of Pcs with particular reference to planetarium programmes such as Graystel, Skyglobe and The Sky. Contact Duncan Radbourne on 0181 952 2816 for more.

WEST YORKS AS Phobos as usual was full of good readable serious, amusing and sad stuff. The speakers programme still looks good with a wide range of professionals and top amateurs featuring. March and April featuring Paul Money (Hale-Bopping), Prof Michael Woolfson (Star Formation), Dr Karen Brazier (Power of Pulsars) and Dr Don Pomfret (Techniques and Observations in Radio Astronomy - I should go to hear that!). A couple of controversial points that were mentioned will need pursuing.

Contact Pete Lunn on 01924 360064 for programme of meetings and to ask about the Rosse Observatory or look on the Internet at http://staff.ndl.co.uk/terry/wyas

WORCESTER AS The usual good balance of speakers and Members Evenings have meant that WAS's membership has increased over the last year or so. A couple of good Society telescopes on loan to members also means that you don't need to be loaded to be able to observe with good equipment. The society have public viewing sessions arranged for Hale-Bopp and are looking forward with anticipation to the Convention. WAS has also been lucky to have Ian Gray producing some of the best comet photos I have ever seen. Contact Ian Gray on 01386 47352 for details of the programme and the Convention WORTHING AS The weather has been poor so far this year for comet observers. However, we are planning a Comet Hale-Bopp watch for members of the public, down on the scafront at

West Worthing, over Easter. By picking several

evenings we hope that at least one will be clear!

Our meetings programme for the next few

months includes Storm Dunlon, "Observational

Astronomy"; Norman Walker, "Cygnus X-1: Black Hole or not?"; a members' evening to

show comet Hale-Bopp slides; and (to be confirmed) Mark Armstrong talking about his

Meetings take place on the second Wednesday

of each month in the Heene Church Rooms,

Heene Road. Worthing, commencing at 7,30pm.

I read the WASNEWS regularly - after all they

send me it and it seems a shame not to read

what I'm sent but I must say that Pam Spence's

article on the Editor Syndrome really made me

feel that someone understood Newsletter

Editors. Pam was of course talking from

experience. A nice touch in the same

WASNEWS was a 3-D model of the Earth and

Hal-Bopp orbit by Richard Fleet of Newbury

AS. Speakers in the last couple of months have

been Graham Bryant of HAG talking on

"Comets" and Liz Puchnarewicz of Mullard

SSL talking about "Quasar Surveys" Meetings

take place Heene Church Rooms on the 2nd Wednesday. Contact Nick Quinn on or at

nick@nguinn.demon.co.uk for full details of the

OFFICERS REPORTS 1997

letters to be answered and matters to be referred

to Council. Three Council Meetings have taken

place. The matter of a model constitution for

Federated Societies to be officially agreed with

the Charity Commissioners has been dropped.

There has been the usual steady flow of

SECRETARY'S REPORT FOR 1996/97

Supernova 1996bo discovery.

Nick Ouinn

programme.

There was a luke-warm response at the 1996 AGM and the President proposed to Council that societies should be allowed to write their own constitutions. However, the sample constitution which we send out was approved by the Charity Commissioners when West Cornwall applied for Charity Status. I am not standing for election again as I have been Secretary for nine years and feel that someone younger should take over the responsibility. I have found the work interesting and have learnt a great deal about the amateur astronomy scene in Britain as well as the

legalities involved in running a voluntary organisation. I have made many good friends who I hope to be meeting at future events. Christine Sheldon Secretary

#### PUBLICITY OFFICER'S REPORT

To everyone's delight, the number of trade stands at conventions has increased during the past year and those attending the Liverpool and Cambridge meetings were enthusiastic about the diversity of astronomical goods being offered for sale. Hopefully, this situation will continue, making FAS conventions a showcase for what is available on the amateur scene. Advertisements for FAS publications are far but nevertheless efforts are being made to increase our share and ease the cost of both the Handbook and Astrocalendar.

I will be giving up this post and standing as

Secretary next session. Clive Down Publicity Officer

EDITORS REPORT

## The usual year with the production of four

Newsletters, a Handbook and sundry flyers, maps, tickets etc for the two conventions. More beset than usual by a overdose of ill-health and faults on computers. I think the machinery failed due to overwork but I don't think that the human did. I must say that I shall miss the Society newsletters and hope that my successor has as much good fun and makes as many friends as I have. Ken Sheldon Editor (Newsletter and Handbook)

## DATES FOR YOUR DIARY April 19th FAS AGM Nottingham

June 7th WORCESTER AS SUMMER CONVENTION will be held in the main hall of the Worcester College of HE. Speakers to include Prof Arnold Wolfendale and Prof Mike Cruise. For more information contact Ian Gray on 01386 47352 Sept 6th-7th ASH 25th ANNIVERSARY at

Alexandra Palace. Jerry Workman for info on 0171 609 2650

Sent 12th-14th SCOTTISH ASTRONOMY WEEKEND based on the University of Dundee. Can include one of two trips. For more information and a booking form contact Dr David Gavine, 29 Coillesdene, Crescent,

Edinburgh EH15 2JJ or ring him on 0131 657 4th FAS AUTUMN October CONVENTION at the Cavendish

Laboratories in Cambridge. Keep an eye out for the next Newsletter which should have speaker details Oct. 11th SOUTH WALES SOCIETIES CONVENTION This will take place at the

Techniquest Science Centre, Cardiff Bay and the speakers are Professor Sir Martin Rees, Dr Mike Edmunds, Dr PatrickWalters, Dr David Dunbar, Admission is FREE but by

For more information contact Theresa Cooper tel: 01446-700722 or visit the Web site at http://users.aol.com/astrowales/

Nov 1st SE KENT AS CONVENTION to be held at Canterbury with Guest Speakers. Starring John Zarnecki and Patrick Moore. Contact Andrew McCarthy on 01303 241933

Published by the FAS Whitehaven, Maytree Road, Lower Moor, PERSHORE. Typeset by Townend Typesetters, Northwick, Worcester. Printed by John Knight & Sons, Printers, 33 Littleworth Street, Evesham