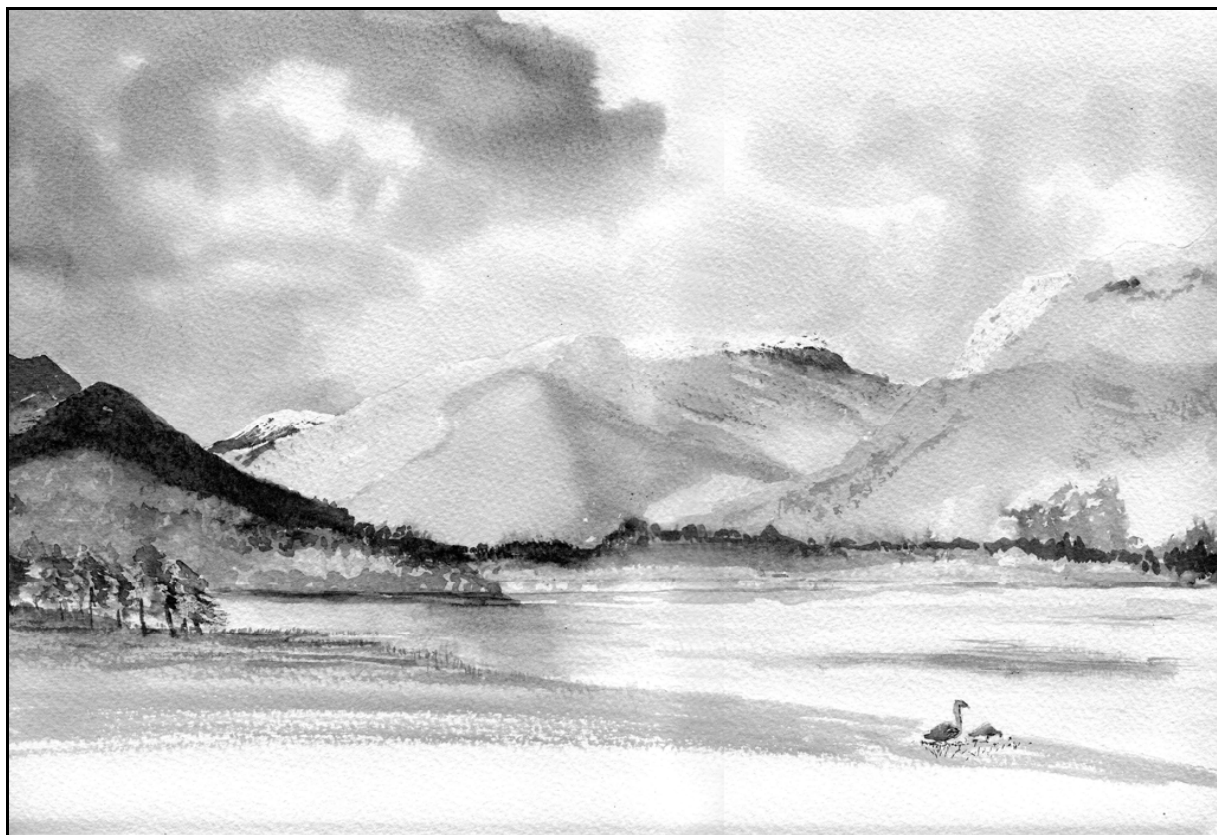


## The First Forty Years of the Heterocyclic Group of the Royal Society of Chemistry

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In 1967 the idea of specialist subject groups was comparatively new. To test the waters, Professor A.R. Katritzky and Dr. G. Jones held a meeting at Keele University at which 125 chemists voted to propose to the Chemical Society Council the formation of a Subject group for those interested in the study of heterocyclic compounds, hereafter called the Heterocyclic Group. The proposal was accepted by the Council on the 5th April, 1967, a committee was formed, with Professor Alan Katritzky as Chairman and Dr. Gurnos Jones as Secretary/Treasurer, and a first half-day meeting held before the main Autumn meeting of the Chemical Society in Durham on 19th September. Much more detail is given in the article on the history of the group which is the first article in this issue of Arkivoc, but the Group has been an enormous success with an average of four meetings (one day and longer) each year. A pattern soon developed with a meeting in London in January, and a meeting at an industrial site in the summer. Industry, particularly the pharmaceutical industry has from the first been very supportive. In early years the group used one day during the Autumn Meeting of the Chemical Society (later the Royal Society of Chemistry), but in later years this has been replaced by a meeting with postgraduate student presentations, of very high quality. The first longer meeting was held in Grasmere in the Lake District, organised by Dr. Otto Meth-Cohn, and this has been a huge success with excellent lecturers from all over the world. This issue of Arkivoc is timed to coincide with the eighteenth of these biannual meetings in May, 2007. In 1988 the first of a further biannual series of longer meetings was started in collaboration with the Heterocyclic Group of the Italian Chemical Society, held in Sicily, and these have continued, held alternately in Italy and the British Isles. As of 2005, the name of the Group has been changed to Heterocyclic and Synthesis group, to reflect widening interests; with membership over 700 and a vibrant programme, the Group looks set for at least another forty years of exciting chemistry. This issue of Arkivoc is made up of contributions (written and artistic) from Chairmen and Secretaries of the Group as a tribute to its first forty years, and will, hopefully, coincide with the eighteenth Grasmere meeting, in 2007.



Grasmere in May. Painted in water soluble black ink by Otto Meth-Cohn

# Forty years on A history of the heterocyclic group of the Royal society of chemistry

Gurnos Jones

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## Abstract

An account of the progress of the Heterocyclic Group, from its beginning in 1967 under the Chemical Society to its present status under the Royal Society of Chemistry.

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## Introduction

During a stroll in the rain, during the seventeenth Grasmere meeting, Alan Katritzky and Gurnos Jones realised that 2007 would be the 40th Anniversary of the formation of the Heterocyclic Group. They felt that a special issue of Arkivoc might be commissioned to celebrate this anniversary and this proposal was put to the Chairman and Secretary of the Group. It was hoped that most of the surviving Chairmen and Secretaries would contribute a research paper, and that the original Group Secretary would contribute a history. Of the Chairmen and Secretaries contacted, all replied favourably, and all who could provide a paper have done so. The account of the early years draws heavily on the history prepared for the 21st Anniversary by the same author, but this had a limited circulation and has been further annotated.

## Beginnings

In late 1966, Professor Alan Katritzky, having established the School of Chemistry at the new University of East Anglia, was touring the outlying provinces, discussing with various eminent heterocyclic chemists the idea of forming a Heterocyclic Discussion Group within the Chemical Society. The concept of specialist Subject Groups was a novelty viewed with suspicion by many Fellows, partly from fear of fragmentation of the Society, and he met with little encouragement. A visit to Keele and a discussion with Dr. Gurnos Jones produced a more encouraging response, and the gang of two decided to arrange a scientific meeting to float the idea to a wider public. The meeting was held at Keele, and Professors C.W.Rees (Leicester) and G.W. Kenner (Liverpool), and Drs. K. Schofield (Exeter) and D.H. Reid (St. Andrews) agreed to speak. The meeting was held on March 22nd, 1967; the registration fee was twenty five shillings (£1.25) and bed and breakfast was available for twenty two shillings and six pence (£1.125). The meeting

was a great success, one hundred and twenty five chemists attending, and with excellent lectures and discussion. Another thirty one chemists unable to attend, wrote in to offer support. After the scientific meeting there was a lively discussion in which conflicting views were expressed, some distinguished attendees speaking against the proposal, but a vote showed an overwhelming support for a motion to seek permission from the Chemical Society Council to form a Heterocyclic group. A provisional committee, which eventually became the first formal committee was elected, with Alan Katritzky as Chairman, Gurnos Jones as Secretary/Treasurer, and a committee of Drs. Gordon Cheeseman (Queen Elizabeth College), Justus Landquist (I.C.I. Pharmaceuticals), Ken Schofield (Exeter), and Professor Hans Suschitzky (Salford). The Council of the Chemical Society approved the formation of the Group on the 5th April, 1967, and it became necessary to arrange meetings and find funds, since there was no subscription. In retrospect it was somewhat of a financial gamble for a youngish academic Treasurer, and there was much relief when income began to come in. For the first meeting in 1967 we attached ourselves to the Chemical Society Autumn meeting at Durham holding a session with eleven short papers on the afternoon before the main meeting started. This was followed by a meeting in January 1968 at Queen Elizabeth College in Kensington, and another at I.C.I. Pharmaceutical Division at Alderley Park in the summer of 1968. Thus, within the first year a successful pattern was established. The January meeting, mostly in London and the meeting at an industrial site have continued to the present day. More ambitiously, the group Secretary negotiated a full day as part of the 1968 Chemical Society Autumn meeting at Keele, with a registration fee covering the one day only, and this encouraged other groups to participate, making for a much more varied programme. At these meetings there were no main lectures, only submitted short papers. After the next January meeting in London the group felt sufficiently solvent to risk a larger event with two plenary lectures, by Professors Emanuel Vogel and Nelson Leonard. The meeting was held at Welwyn Garden City, attracted over 200 participants, and was sponsored by the four local companies Glaxo, Roche, Smith and Nephew, and Smith, Kline, and French. A number of the early meetings were modelled on the Faraday Discussions. The detailed abstracts were circulated before the meeting, the presenter was limited to five minutes and there was fifteen minutes of discussion. Thus the discussion could be much more informed, as participants had time before the meeting to research their questions. I regret the demise of this type of meeting, but the pressure on the Secretary to obtain and reproduce long abstracts in time was too great. The first era of the group can be conveniently said to have ended with the retirement in 1969 of Alan Katritzky as Chairman, to be replaced by Charles Rees, and, a year later, by the retirement of Gurnos Jones as Secretary/Treasurer to be replaced by Otto Meth-Cohn. By this time the membership was well over 300 and the bank balance healthy.<sup>1</sup> The full list of subsequent Chairmen and Secretaries can be found in Appendix 1. It is to these that the group owes its longevity and success. From here the history can best continue by considering the progress of the different types of meeting.

### One Day Meetings

There were two types of one day meeting in 1970, the January meeting and the industrial meeting, which were later joined in 1986 by an annual meeting for postgraduate presentations, held in early summer.

The January meetings were held in London, apart from one excursion to Aston. They have to some extent reflected the fate of academic chemistry departments, moving around the colleges of London University as their departments were closed. Thanks to our early committee members Gordon Cheeseman and Clive Bird we were able to use the pleasant Kensington Campus of Queen Elizabeth College for our first London meeting in 1968 and continued there until 1994, although by this time it was the Kensington campus of Kings College. By this time also the Queen Elizabeth chemistry department had closed with some members relocated to the Strand campus of Kings College and it was natural to transfer the January meeting also. At the risk of describing the holding of Heterocyclic Group meetings as the kiss of death we should mention that there was one at Queen Mary College in the East End, which has also closed its chemistry department. After a few years wandering the corridors of Kings College, Strand, and one meeting at the Guy's campus, the seemingly inevitable closure meant a final relocation in 2004 to Imperial College, and if continued hospitality is offered, the January meeting seems safe until the end of chemistry in London! After the first few meetings, which consisted entirely of short submitted papers, increasing wealth allowed the inclusion of plenary lecturers. As the meetings are on Friday, the attraction of a weekend in London plus attendance at Charles Rees's house in Holland Park for a reception has made plenary lecturers easy to find. Probably the most memorable January meeting was in 1982 and coincided with a blizzard. Out of one hundred and twenty registered participants, one hundred and five managed to arrive, in some cases by lunchtime, and we believe that all reached home. The Manchester train reached Stoke around 2 a.m. and your author walked up the hill to Keele around 3 a.m. Malcolm Stevens left the train in the outskirts of Birmingham and was seen climbing down the embankment and disappearing along a deserted road. This anecdote is included to provide a contrast between British Rail (then) and various private enterprises (now), because the train did reach its destination! Traditionally the Annual General Meeting has been held after lunch at this meeting; confidence in the Committee is such that the meeting rarely lasts more than twenty minutes and has been known to be over in ten. However for some years a Member attended regularly to query the accounts, thus preserving democracy, although no-one can recall seeing him at any other scientific meetings. Returning to the chemistry reported at the January meetings, some of the early sessions had themes such as "Pyrroles and Azoles", "Physico-chemical techniques and Structure-Activity correlations", "Synthetic Strategies to Unusual Heterocycles" and "Organometallic and Other Aspects of Heterocyclic Chemistry". The meeting in 1988 was treated as a celebration of our 21st year, and all speakers were former Chairmen or Secretaries of the Group. A photograph taken at the meeting is reproduced below. A list of speakers who gave plenary or longer lectures at one day meetings is included as Appendix 2. A loss of some archival material has allowed

only estimates of the numbers of shorter contributions at January meetings, but there have been around 135.



From left to right; George Tennant, Dick Storr, John Boulton, Alan Jones, Hamish MacNab, Roger Newton, Otto Meth-Cohn, Ron Grigg, Hans Suschitzky, Charles Rees, Gurnos Jones, George Wibberly, Anthony Roe, Alan Katritzky, Dick Chambers, Malcolm Stevens

The Industrial Meetings have been a tribute to the relevance of heterocyclic chemistry to industry in general and the pharmaceutical and agrochemical areas especially. It is worth listing the firms where we were welcomed, because they, like those of the January meetings, reflect the changing face of chemistry in the United Kingdom. The first hosts were I.C.I. Pharmaceutical Division at Alderley Park in 1968; subsequently the company have been the most consistently welcoming first as Zeneca Pharmaceuticals, and now as Astra Zeneca. The pattern established was of a comfortable lecture room, help with the costs of plenary lecturers, and an excellent lunch, suspected of being a major attraction. Other pharmaceutical companies visited were Rhone Poulenc, Smith, Kline, and French, Beecham, (Smith, Kline, Beecham), Glaxo (Glaxo-Wellcome, GlaxoSmithKline), Fisons Pharmaceuticals (Zeneca, AstraZeneca), Eli Lilly, Organon (one of our few visits to Scotland), Merck, Sharpe, and Dohm, and Novartis. In the area of agrochemicals, the Group has visited ICI (Zeneca, Astro, Syngenta), Shell Biosciences

(closed), and Schering Agrochem, and in other areas I.C.I. specialities and Aston Molecular. This list shows second or third visits to the same company in parenthesis, and is included to show the huge changes due to amalgamations, takeovers, and closures which industry in the United Kingdom, especially the pharmaceutical industry, have suffered over the last forty years.

### Postgraduate Meetings

The Group has promoted postgraduate participation from the start, with postgraduates encouraged to attend meetings and ask questions, but there were at first no meetings specifically aimed at them. In 1986 the Group held its first meeting at which all presentations were by postgraduates, at Aston University. Ten students were selected to give oral presentations and there were eight posters. The meeting was a great success with an audience of one hundred and fifty. The second meeting at Keele University saw one hundred and thirty seven participants followed by Nottingham (one hundred and eighty nine), Sheffield (almost two hundred), UMIST (one hundred and thirty), and Leeds (ninety). These very high attendances have not been maintained, the average attendance varying between a low of forty and a high of eighty, which may reflect the increased difficulty of funding postgraduate research and the considerably reduced number of chemistry departments as vice chancellors become more cost conscious. Subsequent meetings have been held at Loughborough (twice), Birmingham, Leicester, Warwick, Leeds, Keele, Reading, Cardiff, York, Nottingham; at Manchester and Sheffield there was a plenary speaker, funded from an RSC bequest. Possibly the last in the familiar format was at Birmingham (2005). The number of speakers has remained constant around 10, and the presentations have been universally excellent; it has been regrettable that the participation by academics and industrialists has declined. As a result of this decline it was proposed at the AGM in 2006 that the Postgraduate and the Industrial meetings should be combined, thus increasing the audience and drawing in more members from industry, but with the inevitable result of reducing the number of postgraduate contributions. Since this meeting will be held after this article has been submitted, it may not be possible to report the results. In the section on the Grasmere meetings, it is reported that the first such meeting was modelled on the Gordon Conferences, but it must be emphasised that as a matter of policy, unlike the Grasmere meetings, the Gordon Conferences were never available to postgraduates. In all, almost 200 postgraduates have been able to present their work orally, with many more presenting posters at Grasmere, at the Anglo-Italian meetings, and in association with other occasional meetings, so that the Group has made a valuable contribution to postgraduate education in the U.K.

### **International Meetings**

While many of the meetings of the Group have had speakers and attendees from abroad, the Group has run two series of international meetings at Grasmere in the English Lake District and jointly with the Organic Chemistry division of the Società Chimica Italiana.

Grasmere meetings

Otto Meth-Cohn returned from a visit to the Gordon Conference on Heterocyclic Compounds convinced, as he put it, that we could do better. Consideration of this typically confident statement will be left until the end of this section. The plan of the Gordon Conferences has always been to have all participants resident, to have scientific sessions morning and evening, with the afternoons free for recreation of various sorts. Otto reports that he considered a number of possible sites for the conference, in the Lake District and elsewhere before settling on Grasmere in the English Lake district, a popular holiday resort with many hotels and, most importantly, a village hall, in which the meetings could be held.<sup>2</sup> For the first meeting in 1983, and early subsequent meetings, the group owed much to Councillor Albert Bowers and his wife, who handled any local difficulties and helped with the organisation. The meetings are biannual and have always been held over a long weekend in early May, when the weather is mainly good,<sup>3</sup> and, being out of the main season, the hotels have space and can offer lower rates. As the number of participants has risen to the capacity of the village hall the Group has filled 5 hotels, centred on the Red Lion and, after its rebuilding in the late seventies, the Wordsworth. The first meeting established most of the programme, with a reception in the Red Lion on Thursday evening, scientific sessions from 9.00 to 12.30 and from 7.15 (optimistically since dinners can be slow) to a nominal 9.30 p.m. On Sundays and Mondays, morning sessions only are held, the participants dispersing after lunch on Monday. There are many memorable moments, but most participants will remember the icy temperatures in the early morning village hall, especially if someone forgot to turn on the rather inadequate heating. One (nameless) secretary forgot to book the village hall, and the meetings were held that year in a tent on the Wordsworth hotel lawn, heated by what appeared to be a large jet engine. The RAF low altitude training flights were even more deafening than usual, but fortunately there were no real Lakeland showers or the speakers would have been inaudible. In 1981 an airline strike landed overseas speakers at various times at many distant points. Most passed the initiative test and found trains or taxis and the programme was not affected. The contributions, particularly the plenary lectures, have been outstanding (see Appendix 3), and Grasmere is known world wide as one of the best such meetings. There have been problems for the session Chairmen, notably with Saturday evening speakers who wished to carry on when the audience wished to go to the bar;<sup>4</sup> the outstanding lecture for length was by Professor Kametani who had allegedly 95 slides, each one with up to 8 complex alkaloid structures. Two distinguished former Chairmen of the Group left at nominal full time, took a slow walk around the village and returned to find the speaker still in full flow. The meetings have always been notable for audience participation (the concept of “irreversible lethality” introduced by one speaker raised a question about the possibly more interesting concept of “reversible lethality” and a suggestion from Charles Rees that it reminded him of the concept of “hereditary impotence”). This is a suitable point to mention the Saturday evening lecture at the eleventh meeting, which was given by Charles Rees, which has led to the eponymous Charles Rees Lectures, given by friends, and with the dedicatee still very much in attendance.



An important part of the recreational activity since the first meeting has been the series of walks over the fells, although the first series did not engender optimism. The first afternoon found some fifty chemists and families (over sixties and under fives) scattered over the side of Silver Howe and Castle Howe in a thunderstorm; gear thought suitable for mountain walks included town shoes, smart coats, and umbrellas. On the Sunday after this Otto Meth-Cohn devised and led (for a while) a walk from Grasmere to Borrowdale over two high passes; at a crucial point (so Otto maintains) Alan Katritzky took over and led the party at 90° to the right of the correct route down towards Thirlmere. After this diversion the group were very late returning, arriving for the second course of the banquet. The Katritzky Memorial Walk has taken the correct route without major incident at every subsequent meeting, although Alan Katritzky and John Greenhill left early on one walk and were seen approaching the main party from a direction which indicated that they had erred in a direction 90° to the left this time. To celebrate the tenth Grasmere meeting, Otto Meth-Cohn and the author carried six bottles of champagne on the Memorial Walk, and were able to share them with all participants at the point where Borrowdale finally comes into view. Ichiya Ninomiya took part in the first walk at the sixth meeting wearing a smart suit and town shoes and carrying a large tripod. By the next meeting he had purchased boots and battled his way over Fairfield, to much applause. A reverse walk, arriving in Grasmere, was led by Malcolm Stevens in 2003; his party met those taking the conventional approach, led by various Joneses, at the highest point. The traditional route, where participants arrive with relief at the tea shop in Stonethwaite, seems to have prevailed.



**UP, SUN, 1985**



**DOWN, RAIN, 1981**

Views of the Katritzky Memorial Walk; Victor Snieckus leading the charge down to the tea shop in Stonethwaite. Careful inspection of both pictures will reveal walkers straggling back to the horizon.

The other major social event has always been the Sunday evening banquet, illuminated by a series of excellent after dinner speeches by Charles Rees, ably assisted at first by John Cadogan, then later by David Evans, and for the last four meetings by Stuart Warren. It has been a matter of some regret that these speeches were never recorded, although some material may well have been actionable. The pleasant surroundings have also ensured a regular coterie of partners enjoying a social programme.

An effort was made from the beginning to involve postgraduate students, supported by bursaries, who acted as projectionists and general labourers, but also contributed posters. This is in contrast with the Gordon Conferences where postgraduates were not eligible. Returning to the original question, comparisons with the Gordon Conference are largely irrelevant; the objectives have differed and the increase in size of the Gordon Conference must have compromised the early ethos, in which the author remembers that one could meet most of the 100 or so participants at communal meal times. Fortunately the limited accommodation and Village Hall capacity, even with the balcony, will continue to keep the Grasmere meetings of a manageable size. The major worries must be the increasing hotel costs and the difficulty of obtaining outside funding as the pharmaceutical companies, our main donors, amalgamate and close. It seems a far cry from the first meeting where a grant of three thousand dollars was given by the U.S. Army European Office to help with travel expenses for speakers from the U.S.A.

### The Anglo-Italian Meetings

This section is in danger of reading more like a holiday brochure than a sober history, but the list of plenary lecturers in Appendix 3 will indicate the amount and quality of the science. The committee was approached in 1986 by Professor Uccella from Calabria with the suggestion that a joint meeting might be held between the Chemical Society Heterocyclic Group and a similar Group from Società Chimica Italiana. The first meeting was held at Catania in Sicily, in the spring of 1988, and was an immediate success, attracting one hundred and five chemists from Italy and thirty seven from the rest of the world. It was decided that the meeting should be biannual, alternating between Italy and the UK, and held in the years between Grasmere meetings. Those of us who visited Catania were aware of the difficulty of matching the setting, the hospitality, the trip up Etna, and the wonderful weather, but the committee responded by holding the second meeting during the Chemical Society's Annual meeting in Belfast. This second meeting was successful, but the Italian response was a second meeting in Sicily, this time in a hotel complex on the Mediterranean outside Sciacca. Again there was an good turn out from the U.K. (forty five), the chemistry, hospitality and weather were excellent, although there were two potential flash points. In the first the Italians beat the U.K. at football by 4-1, in spite of Malcolm Stevens's heroic goal-keeping. The second was on the excursion when we were entertained to an historic puppet show in which the Normans fought the Saracens. After a few minutes the U.K. contingent decided to cheer for the Normans (particularly loudly when a Saracen head was cut off), only to discover subsequently that this was a serious cultural event for Italians and apologies had to be offered (England is well-known for its football hooligans). The

fourth meeting was held in Jersey and at last offered competition in the holiday environment stakes; again a good attendance, good chemistry, and warm weather. A fifth meeting in Italy at Numana on the Adriatic, kept up the theme of sun, sea, and sand, with good lectures, the field being widened to include those from outside of Italy and the U.K. It was also possible to take some postgraduate students on bursaries who presented posters. A meeting in Galway followed, with typical Irish hospitality, including a memorable boat trip down Lough Corrib with salmon and baked potatoes cooked in the tiny galley. Back in Italy at Folgaria in the mountains to the north of Italy the weather for once was a little below par; an attendee remembers the conference centre above the swimming pool with a faint, suitably chemical smell of chlorine. The last few meetings have been in Edinburgh, in Urbino (with a record attendance of one hundred and sixty eight), and at Harrogate. Full details of the Harrogate meeting may not be available before the deadline for this article. The plenary lecturers are listed with those of the Grasmere meetings, in Appendix 3.

### **Further Developments and General Comments**

One of the most important decisions recently, taken at the 2006 Annual General Meeting, was to ratify a suggested change to the name of the Group. The committee felt that the emphasis of the chemistry presented at Group meetings had always been towards synthesis and proposed to change the name to reflect this fact, and to mitigate against the formation of any second group devoted to synthesis. After a postal vote this suggestion received the support of a majority of those who replied, was accepted by the R.S.C. Council, and the new title is "The Heterocyclic and Synthesis Group". The committee also proposed that the number of meetings per annum be reduced; the effect of this will be to combine two of the one day meetings, the Postgraduate and the Industrial, and the new format will be tested in the autumn of 2006. In spite of some gloomy forecasts, the Group still appears in good health, with over seven hundred members (we never quite reached the one thousand mark), and seems capable of reaching its fiftieth anniversary unless there is a catastrophic downward turn in chemistry in the United Kingdom. Its first forty years have certainly been successful to an extent that its progenitors could not have imagined, but in one major area it appears to have failed. In the forty years, none of the officers have been women. Indeed so far as I can ascertain there has never been a female committee member, nor, until the January meeting in 2001, a female plenary lecturer (appearing again in Harrogate in 2006, but still unique).. The lists of the contributors to the postgraduate meetings shows a normal balance of males and females, but after this the females become minority contributors, although they do attend meetings in numbers. Perhaps by anniversary fifty we may have to amend the title to Chairperson?

### **Appendices**

I regret that the attached appendices are not quite complete, because of a loss of records for much of the 1970s. I have decided to limit lists of officials to the Chairmen and Secretaries, but this is not to ignore the considerable efforts of the Committee Members who must in all number well

over 50. Also, in reporting only longer lectures in Appendix 2 and Appendix 3 I am not down playing the large number of contributions of length less than thirty minutes each which are the life blood of the Group's activities, but I have had neither time nor full information to assemble these.

## Acknowledgements

I have had much help in preparing this History from the Chairmen and Secretaries; in particular I should like to thank Anthony Roe, whose considerable collection of documents, particularly of AGM papers, has been invaluable. Finally thanks are due to Alan Katritzky, who, as usual, made sure that the enterprise never lost momentum.

## References

1. By January 1969 the treasurer felt able to offer a reduced registration fee for the meeting of fifteen shillings (£0.75) with a further reduction to seven shillings and six pence for research students "because of the satisfactory balance in hand". Professor Katritzky wishes to add this note; "In the early days financial matters were decided by majority vote of the Officers of the Group. Any extravagant expenditure suggested by the Chairman was immediately outvoted by the Secretary and Treasurer, who not surprisingly always voted together. This excellent system has much to recommend it, especially in retrospect".
2. The Tourist Officer responsible for the Grasmere area, who was very active in encouraging the Group to use the village as a base, moved to Guernsey and appears to have made efforts to persuade the Group to move also, but fortunately these blandishments were resisted.
3. Connoisseurs of heraldry may wish to study the cover of the 7th Grasmere conference book, where the motto on the Chemical Society crest was replaced by John Boulton with the phrase "OREMUS CONTRA PLUVIUM", roughly translated as "WE PRAY THAT IT MAY NOT RAIN".
4. Malcolm Stevens donated a shepherd's crook for use by Chairmen in keeping order, but this has disappeared, possibly destroyed by a frustrated speaker.

**Appendix 1.** Chairmen and Secretary/Treasurers of the Heterocyclic Group

<u>Chairmen</u>		<u>Secretary/Treasurers</u>	
A.R. Katritzky	1967-1969	G. Jones	1967-1970
C.W. Rees	1969-1971	O. Meth-Cohn	1970-1973
H. Suschitzky	1971-1973	R.A. Jones	1973-1976
D.G. Wibberley	1973-1975	G. Tennant	1976-1979
J.I.G. Cadogan	1975-1977	M.F.G. Stevens	1979-1982
A.H. Jackson	1977-1979	A.J. Boulton	1983-1986
G. Jones	1979-1981	R.C. Storr	1986-1989
R.F. Newton	1981-1983	H. McNab	1989-1992
R. Grigg	1983-1985	R.F.C. Jones	1992-1996
A.M. Roe	1985-1987	K. Jones	1996-1999
R.D. Chambers	1987-1989	P.B. Page	1999-2002
O. Meth-Cohn	1989-1991	P. Stevenson	2002-2005
M.F.G. Stevens	1991-1993	P. O'Brien	2005-present
C.J. Moody	1993-1995		
C.A. Ramsden	1995-1997		
R. Westwood	1997-1999		
R.A.J. Taylor	1999-2001		
R.F.C. Jones	2001-2003		
P.M. Bailey	2003-2005		
K. Jones	2005-present		

**Appendix 2.** Principal Lecturers at One Day Meetings

Aggarwal, Professor V.	University of Sheffield	J 1998
Alexakis, Professor A.	University of Geneva	J 2001 M 2004
Anderson, Dr. P.S.	Merck, Sharp, and Dohme	I 1989
Armstrong, Professor A.	Imperial College	J 2005
Bailey, Professor P.D.	Heriot-Watt University	I 1993
Barluenga, Professor J.	University of Oviedo	J 1991
Beugelmans, Professor R.	C.N.R.S. Gif-sur-Yvette	I 1985
Blechert, Professor S.	University of Berlin	I 2002
Bohm, Professor C.	RWTH-Aachen	M 2003 J2006
Bonnett, Professor R.	Queen Mary College, London	A 1973 J 1980
Brown, Dr. R.F.C.	Monash University	I 1990
Brown, Professor T.	University of Edinburgh	J 1995

Burger, Professor K.	Technical University, Munich	J 1994
Butler, Professor R.N.	University College, Galway	J 1980
Caddick, Professor S.	University College, London	I 2004
Cadogan, Professor, J.I.G.	University of Edinburgh BP Research Centre	A 1973 Edinburgh 1979
Callot, Professor H.J.	Louis Pasteur University, Strasbourg	J 1986
Campbell, Professor M.M.	University of Bath	I 1981 J 1987
Carell, Professor T.	University of Marburg	I 2003
Carreira, Professor E.	ETH, Zurich	J 1999 I 2004
Chadwick, Dr. D.J.	Ciba Foundation	J 1989
Chuche, Professor J.	University of Reims	I 1983
Clark, Professor S.	University of Nottingham	I 2001
Clayden, Professor J.	University of Manchester	J 2005
Craig, Professor D.	Imperial College	J 2003
Crout, Professor D.H,	University of Exeter (Warwick)	J 1984, 1989
Davies, Professor S.G.	University of Oxford	I 1993 J 2002
Donohoe, Dr. T.	University of Oxford	J 2003
Dötz, Professor K.-H.	University of Bonn	I 1998
Elguero, Professor J.	CSIC Madrid	J 1985
Enders, Professor D.	University of Aachen	I 1995 J 2000
Fleet, Dr. G.W.J.	University of Oxford	I 1992
Fleury, Professor J.P.	E.N.S. Mulhouse	I 1983
Fürstner, Professor A.	University of Mulheim	J 2002
Gallagher, Professor T.	University of Bath (Bristol)	I 1986 J 1998
Ghosez, Professor L.	Catholic University of Louvain	Cardiff 1980 J 1983 I 1988, 2000
Gibson, Professor S.E.	King's College, London	J 2001
Gilchrist, Dr. T.	University of Liverpool	Cardiff 1980
Golding, Professor B.	University of Newcastle	I 1987
Gompper, Professor R.	University of Munich	A 1973
Grigg, Professor R.	University of Leeds	Hull 1984 J 1988
Hale, Professor K.J.	University College, London	I 1998
Harrowven, Professor D.	University of Southampton	J 2006
Harwood, Professor L.	University of Reading	J 1997 I 2005
Hegarty, Professor A.F.	University of Dublin	Hull 1984 J 1996
Heimgartner, Professor H.	University of Zürich	Cardiff 1980

Helmchen, Professor G.	University of Heidelberg	J 1992
Heusler, Dr. K.	Ciba-Geigy, Basle	J 1974
Holmes, Dr. A.B.	University of Cambridge	I 1990
Hoppe, Professor D.	University of Münster	I 1996
Huisgen, Professor R.	University of Munich	I 1988
Husson, Professor H.-P.	C.N.R.S. Gif-sur-Yvette	I 1990
Illuminati, Professor G.	University of Rome	A 1973
Jackson, Professor R.	University of Sheffield	J 2004
Jackson, Professor A.H.	University College, Cardiff	J 1979
Jefford, Professor C.W.	University of Geneva	I 1991
Johnson, Professor A.W.	University of Sussex	A 1973 J 1980
Jones, Dr. D.W.	University of Leeds	Hull 1984
Jones, Professor G.	University of Keele	J 1988
Jones, Professor K.	University of Kingston	J 2000
Joule, Dr. J.	University of Manchester	I 1999
Katritzky, Professor A.R.	University of Florida	Edinburgh 1979 Hull 1984 J 1988
Kerr, Professor W.J.	University of Strathclyde	I 2005
Kirby, Professor G.W.	University of Glasgow	Edinburgh 1979 J 1992
Knight, Professor D.W.	University of Cardiff	I 1996 2002
Kocienski, Professor P.	University of Glasgow	I 1992 I 2000
L'abbé, Professor G.	Catholic University of Louvain	Cardiff 1978 Aston 1982 Hull 1984
Leonard, Dr. J.	University of Salford	J 2001
Leonard, Professor N.J.	University of Illinois	Welwyn 1970
Ley, Professor S.V.	University of Cambridge	I 1989
List, Professor B.,	Max-Planck-Institute	I 2005
Lloyd, Dr. D.M.G.	University of St. Andrews	Hull 1984
Lozac'H, Professor N.	University of Caen	A 1973
Lund, Professor H.	University of Aarhus	J 1987
Lygo, Dr. B.	University of Nottingham	I 2002
Maier, Professor G.	University of Giessen	J 1990
Makosza, Professor M.	Polish Academy of Science	J 1989
Mann, Professor J.	University of Reading Queens University, Belfast	J 1994, 2006
Maquestiau, Professor A.	University of Mons	A 1973

Markl, Professor G.	University of Regensburg	A 1973
Marko, Professor I.E.	Catholic University of Louvain	I 1997
McKervey, Professor M.A.	Queen's University, Belfast	I 1994
McKillop, Professor A.	University of East Anglia	J 1982 I 1991
Michael, Dr.J.D.	Hoechst UK	Hull 1984
Molina, Professor P	University of Murcia	J 1993
Moody, Professor C.J.	University of Loughborough (Exeter)	J 1991 I 1996, 2003
Motherwell, Professor W.B.	University College, London	J 1994
Müller, Professor K.	Hofmann-La Roche, Basle	I 1993
Murphy, Professor J.A.	University of Strathclyde	I 1997
Newton, Dr. R.F.	Glaxo	J 1988
Ollis, Professor W.D.	University of Sheffield	J 1990
Page, Professor P.C.B.	University of Loughborough	I 1997
Pandit, Professor U.K.	University of Amsterdam	J 1995
Parker, Professor D.	University of Durham	I 1995
Parsons, Professor P.J.	University of Reading	J 1991
Paterson, Professor I.	University of Cambridge	J 2004
Pattenden, Professor G.	University of Nottingham	I 1999
Pfaltz, Professor A.	University of Basle	I 2001
Pfleiderer, Professor W.	University of Konstanz	I 1974
Potter, Professor B.V.L.	University of Bath	J 1999
Professor Diederich, F.	ETH Zurich	J 1998
Quéginer, Professor D.G.	University of Rouen	J 1984, 2003
Ramage, Professor R.	University of Salford	Cardiff 1978
Ramsden, Professor C.A.	University of Keele	J 1999
Rees, Professor C.W.	Imperial College	Hull 1984 J 1988
Rees, Professor C.W.B.	King's College, London	J 1986, 1997
Reinhoudt, Professor D.N.	Twente University of Technology	I 1981
Reisseg, Professor H.-U.	Free University, Berlin	J 2004
Robins, Professor D.J.	University of Glasgow	I 1994
Robins, Professor R.K.	University of Utah	Aston 1982
Schaumann, Professor E.	University of Hamburg	J 1982
Simpkins, Professor N.	University of Nottingham	J 2002
Simpson, Professor T.J.	University of Bristol	J 1993
Smalley, Dr. R.K.	University of Salford	J 1983



Smith, Professor A.B	University of Pennsylvania	M 2001
Smith, Professor K.	University of Swansea	I 1998
Smith, Professor K.M.	University of California, Davis	Cardiff 1980
Snieckus, Professor V.	Queen's University, Canada	I 1990 I 2000
Sondheimer, Professor F.	University College London	J 1973
Speckamp, Professor W.N.	University of Amsterdam	I 1987 1994
Spivey, Dr.A	Imperial College	I 2003
Stanovnik, Professor B.	University of Ljubljana	I 1974
Stoddart, Professor J.F.	University of Birmingham	I 1991
Stoodley, Professor R.	UMIST	I 1985 J 2000
Storr, Dr. R.C.	University of Liverpool	J 1995
Suschitzky, Professor H.	University of Salford	Edinburgh 1979 J 1988
Takeuchi, Professor Y.	University of Tokyo	J 1973
Tennant, Dr. G.	University of Edinburgh	J 1988
Thomas, Professor E.J.	University of Manchester	J 1992
Ugen, Professor D.	University of Strasbourg	J 2005
van der Plas, Professor H.C.	Landbouwhogeschool. Wageningen	A 1973
van Leusen, Professor A.M.	University of Groningen	A 1974
Viehe, Professor H.G.	University of Louvain	J 1990
Vogel, Professor E.	University of Munich	Welwyn 1970
Waldmann, Professor H.	University of Karlsruhe	J 1996
Walker, Professor R.T.	University of Birmingham	Aston 1982
Wamhoff, Professor H.	University of Bonn	I 1987
Wentrup, Professor C.	University of Marburg	J 1979
Whiting, Dr. D.A.	University of Nottingham	J 1993
Wills, Professor M.	University of Warwick	I 2001
Winterfeldt, Professor E.	University of Hamburg	I 1992
Young, Professor D.W.	University of Sussex	J 1996
Zard, Professor S.Z.	C.N.R.S. Gif-sur-Yvette	J 1997 I 1999
Zwanenburg, Professor B.	University of Nijmegen	I 1989

A = CS or RSC Autumn meeting, I = Industrial meeting, J = January meeting, M = Miscellaneous, PG = Postgraduate Meeting

**Appendix 3. Principal Lecturers at International Meetings\***

Aggarwal, Professor V.K.	University of Bristol	Grasmere 17
Alder, Dr. R.W.	University of Bristol	Grasmere 10
Alexakis, Professor A.	Université Pierre et MarieCurie	Grasmere 12
Anastassiou, Professor A.G.	Syracuse University	Grasmere 4
Andersson, Professor P.	University of Uppsala	Anglo-Italian 10
Arcamone, Professor F.	Pomezia	Anglo-Italian 4
Arigoni, Professor D.	ETH-Zentrum	Anglo-Italian 5
Ashe, Professor A.J.	University of Michigan	Grasmere 3
Bachi, Professor M.	Weizman Institute, Israel	Grasmere 15
Baldwin, Professor J.E.	University of Oxford	Grasmere 3.8
Barluenga, Professor J.	University of Oviedo	Grasmere 15
Barrett, Professor A.G.M.	Imperial College	Grasmere 12
Battersby, ProfessorA.R.	University of Cambridge	Grasmere 6
Beak, Professor P.	University of Illinois	Grasmere 8
Bergman, Professor J.	Royal Institute of Technology, Stockholm	Grasmere 10 Anglo-Italian 9
Black, Professor D. St.C.	University of New South Wales	Grasmere 11
Boger, Professor D.L.	Purdue University	Grasmere 9
Bosch, ProfessorJ.	University of Barcelona	Grasmere 14
Boyle, Dr. P.	Trinity College, Dublin	Anglo-Italian 6
Buchardt, Professor O.	University of Copenhagen	Grasmere 2
Bulman-Page, Professor P.	University of Loughborough	Anglo-Italian 9
Burger, Professor K.	Technical University of Munich	Grasmere 6
Cadogan. Professor J.I.G.	University of Edinburgh	Grasmere 1
Cardillo, Professor G.	University of Bologna	Anglo-Italian 8
Ceder, Professor O.	Chalmers Institute, Gothenburg	Grasmere 7
Chambers, Professor R.D.	University of Durham	Anglo-Italian 3
Chiacchio, Professor U.	University of Catania	Anglo-Italian 10
Ciufolina, Professor M.A.	University of Lyon	Grasmere 16
Comins, Professor D.L.	North Carolina State University	Grasmere 11,17
Cook, ProfessorJ.M.	University of Milwaukee	Grasmere 15
Cossy, Professor J.	ESPCI, Paris	Anglo-Italian 10
Cruciani, Professor G.	University of Perugia	Anglo-Italian 8
Curci, Professor R.	University of Bari	Anglo-Italian 7
Curran. Professor D.P.	Pittsburgh University	Grasmere 12

Davis, Professor F.A.	Temple University	Grasmere 13
Denmark, Professor S.	University of Illinois	Grasmere 16
Desimoni, Professor G.	University of Pavia	Anglo-Italian 3
Dolling, Dr. U.-H.	Merck, Sharp, and Dohme	Grasmere 9
Dondoni, Professor A.	University of Ferrara	Anglo-Italian 2 Grasmere 9
Eschenmoser, Professor A.	ETH, Zurich	Anglo-Italian 2
Feringa, Professor B.	University of Groningen	Grasmere 16
Firestone, Dr.R.A.	Merck, Sharp, and Dohme	Grasmere 5
Flitsch, Professor W.	University of Münster	Grasmere 3,10
Florio, Professor S.	University of Bari	Anglo-Italian 9
Fringuelli, Professor F.	University of Perugia	Anglo-Italian 10
Fu, Professor G.	MIT	Grasmere 15
Fuchs, Professor B.	Tel-Aviv University	Grasmere 6
Fürstner, Professor A.	Max-Planck Institute, Mulheim	Grasmere 14
Gallagher, Professor T.	University of Bristol	Anglo-Italian 9
Gawley, Professor R.E.	University of Miami	Grasmere 14
Ghosez, Professor L.	University of Louvain	Grasmere 13
Gibson, Professor S.E	Imperial College	Anglo-Italian 10
Gilchrist, Dr. T.	University of Liverpool	Grasmere 16
Gompper, Professor R.	University of München	Grasmere 8
Grieco, Professor P.	Montana State University	Grasmere 16
Grigg, Professor R.	Queens University, Belfast University of Leeds	Grasmere 5,16 Anglo-Italian 2,6
Guanti, Professor G.	University of Genova	Anglo-Italian 9
Hamilton, Professor A.D.	University of Pittsburgh	Grasmere 11
Heimgartner, Professor H.	University of Zurich	Grasmere 10
Heller, Professor H.	UWIST	Grasmere 8
Holmes, Professor A.B.	University of Cambridge	Grasmere 12,16 Anglo-Italian 7
Houk, Professor K.N,	University of Pittsburgh	Grasmere 7
Hudlicky, Professor T.	Virginia Polytechnic	Grasmere 11
Huisgen, Professor R.	University of München	Grasmere 6
Hunig, Professor S.	University of Wurzburg	Grasmere 1
Jäger, Professor V.	University of Wurzburg	Grasmere 8
Johnson, Dr. A.P.	University of Leeds	Anglo-Italian 2
Jones, Professor G.	University of Keele	Grasmere 11

Jones, Professor R.C.F.	University of Loughborough	Anglo-Italian 7 Grasmere 17
Jorgensen, Professor K.A.	University of Aarhus	Anglo-Italian 8
Jungheim, Dr.L.	Lilly Research	Grasmere 8
Kametani, Professor T.	Tohoku University	Grasmere 4
Katritzky, Professor A.R.	University of East Anglia	Grasmere 1, 9, 14, 17
Kay, Dr. I.T.	ICI Jealotts Hill	Grasmere 7
Kellogg, Professor R.M.	University of Groningen	Grasmere 1,9
Kelly, Dr. R.C.	Upjohn Company	Grasmere 9
Kirby, Professor G.W.	University of Glasgow	Grasmere 2
Knölker, Professor H.J.	University of Karlsruhe	Grasmere 12
Kocienski, Professor P.J.	University of Glasgow University of Leeds	Grasmere 13 Anglo-Italian 10
Kundig, Professor E.P.	University of Geneva	Anglo-Italian 6
Lantos, Dr. I.	SKF Philadelphia	Grasmere 8
Larock, Professor R.	Iowa State University	Grasmere 16
Lehn, Professor J.M.	University of Strasbourg	Anglo-Italian 2, 7 Grasmere 8
Leonard, Professor N.J.	University of Illinois	Grasmere 5
Leumann, Professor C.	University of Berne	Anglo-Italian 9
Ley, Professor S.V.	University of Cambridge	Grasmere 11, 15
Livinghouse, Professor T.S.	Montana State University	Grasmere 10
Magnus, Professor P.D.	Indiana University	Grasmere 6
Markl, Professor G.	University of Regensburg	Grasmere 2
Martin, Professor S.F.	University of Texas	Grasmere 12
McKillop, Professor A.	University of East Anglia	Anglo-Italian 4
Meier, Professor H.	University of Tübingen	Grasmere 4
Meth-Cohn, Dr. O.	NCR Labs., Pretoria	Grasmere 7
Meyers, Professor A.I.	Colorado State University	Grasmere 2, 9, 13
Modena, Professor G.	Thiiranium and Thiirenium ions	Anglo-Italian 5
Montanari, Professor F.	University of Milan	Anglo-Italian 3
Moody, Professor C.J.	University of Loughborough University of Exeter	Anglo-Italian 3 Grasmere 14
Motherwell, Professor W.P.	University College London	Grasmere 15
Muller, Dr.K.	Hoffman La Roche, Switzerland	Anglo-Italian 2
Murphy, Professor J.	University of Strathclyde	Anglo-Italian 8
Musumarra, Professor G.	University of Catania	Anglo-Italian 2
Myers, Professor A.G.	Harvard University	Grasmere 14

Myers, Professor A.G.	Harvard University	Grasmere 17
Nicolau, Professor K.C.	University of Pennsylvania	Grasmere 6
Ninomiya, Professor I.	Kobe Women's College	Grasmere 6,7
Novi, Professor M.	University of Genoa	Anglo-Italian 4
Ollis, Professor W.D.	University of Sheffield	Grasmere 5
Oppolzer, Professor W.	University of Geneva	Anglo-Italian 2
Overman, Professor L.	University of California, Irvine	Anglo-Italian 2 Grasmere 8
Padwa, Professor A.	Emory University	Grasmere 2, 9,12
Pagani, Professor G.A.	University of Milan	Anglo-Italian 4 Grasmere 13
Paquette, Professor L.A.	Ohio State University	Grasmere 10
Parsons, Professor P.	University of Sussex	Anglo-Italian 6
Paterson, Professor P.	University of Cambridge	Grasmere 17
Pattenden, Professor G.	University of Nottingham	Anglo-Italian 4, 8
Pedulli, Professor G.F.	University of Bologna	Anglo-Italian 6
Potts, Professor K.T.	Rensselaer Polytechnic Institute	Grasmere 3
Pfaltz, Professor A.	Max Planck Institute, Mannheim	Grasmere 13
Quast, Professor H.	University of Wurzburg	Grasmere 3
Rees, Professor C.W.	University of Liverpool	Grasmere 1, 8, 11
Regitz, Professor M.	University of Kaiserslautern	Grasmere 9
Reid, Professor D.H.	University of St. Andrews	Grasmere 11
Roberts, Professor S.M.	University of Exeter	Anglo-Italian 3
Ruano, Professor J.L.G.	University of Madrid?	Anglo-Italian 8
Rutjes, Professor F.J.T.	Radboud University, Nijmegen	Grasmere 17
Sanders, Dr. J.K.M.	University of Cambridge	Grasmere 12
Sannicolò, Professor F.	University of Milan	Anglo-Italian 6
Schill, Professor G.	University of Freiburg	Grasmere 1
Schröder, Professor G.	University of Karlsruhe	Grasmere 3
Scolastico, Professor C.	University of Milan	Anglo-Italian 7
Scott, Professor A.I.	Texas A. and M. University	Grasmere 4
Shipman, Professor M.	University of Warwick	Grasmere 17
Skell, Professor P.S.	Pennsylvania State University	Grasmere 2
Smith, Professor A.B.	University of Pennsylvania	Grasmere 13
Snider, Professor B.	Brandeis University	Grasmere 16
Snieckus, Professor V.	University of Waterloo	Grasmere 5
Spagnolo, Professor P.	University of Potenza	Anglo-Italian 3

Speckamp, Professor N.		Anglo-Italian 2
Staab, Professor H.A.	University of Heidelberg	Grasmere 2
Stanovnik, Professor B.	University of Ljubljana	Grasmere 7 Anglo-Italian 9
Steglich, Professor W.	University of Bonn	Grasmere 10
Stevens, Professor M.F.G.	University of Nottingham	Anglo-Italian 5
Streith, Professor J.	University of Mulhouse	Grasmere 1
Suschitzky, Professor H.	University of Salford	Grasmere 2
Sutherland, Professor I.O.	University of Liverpool	Grasmere 7
Taylor, Professor E.C.	Princeton University	Grasmere 5, 13, 15
Taylor, Professor R.J.K.	University of York	Anglo-Italian 5 Grasmere 11,16
Thomas, Professor E.J.	University of Manchester	Grasmere 14
Tietze, Professor L.F.	University of Göttingen Georg-August University	Grasmere 11 Anglo-Italian 5
Townsend, Professor L.B.	University of Michigan	Grasmere 6
Ugi, Professor I.	Technische Hochschule, München	Grasmere 1
van der Plas, Professor H.C.	Wageningen University	Grasmere 5
van Leusen, Professor A.M.	University of Groningen	Grasmere 4
Vasella, Professor A.	ETH-Zentrum, Zurich	Anglo-Italian 5
Vedejs, Professor E.	University of Michigan	Grasmere 14
Viehe, Professor H.G.	University of Louvain	Grasmere 4
Vogel, Professor E.	University of Cologne	Grasmere 3, 9
Warren, Dr. S.G.	University of Cambridge	Grasmere 14
Wasserman, Professor H.H.	Yale University	Grasmere 7
Weinreb, Professor S.M.	Pennsylvania State University	Anglo-Italian 2 Grasmere 14
Wentrup, Professor C.	University of Lausanne	Grasmere 2, 7
Williams, Professor D.H.	University of Cambridge	Grasmere 13
Winterfeldt, Professor E.	University of Hannover	Grasmere 5
Wipf, Professor P.	University of Pittsburgh	Grasmere 17
Woggon, Professor W-D.	University of Basle	Anglo-Italian 7
Wynberg, Professor H.	University of Groningen	Grasmere 1
Zhu, Professor J.P.	CNRS, Paris	Grasmere 17

\* Defined as lectures of length > 30 minutes; most are one hour plenary lectures. There were 179 contributions of 30 minutes at Grasmere and Anglo-Italian meetings.