

THE SUSS-EX CLUB

NEWSLETTER No. 29 January 2014

This issue contains details of

A Theatre Trip	1	A request for information about Academic	
A Cheese Tasting evening	2	Contributions	3
Recent Suss-Ex events	2	Obituaries	4
Future events	2	Booking forms	7,8



Theatre Trip



Here is the latest suggestion for a Suss-Ex theatre outing. Bernard Shaw's classic comedy Pygmalion is coming to the Theatre Royal for March 17-22, led by Alistair McGowan as Henry Higgins and with Rula Lenska playing Mrs Higgins. (Any members from Linguistics could perhaps provide some useful background knowledge?) The ticket price is for us £28 for evenings, £20 for Thurs. and £28 for Sat. matinées.

As usual, a trip will be organised only if enough people (at least 10) sign up for one date for us to get the group reduction. Dinner together beforehand (or after if for a matinée) will be booked for those who want it. A booking needs to be made promptly to ensure that tickets are available. If you are interested, please let Jennifer Platt know **by Friday Feb. 7th** (preferably by email to j.platt@sussex.ac.uk - or phone 01273 555025. Use internal mail on campus to Friston Building, or post to 98 Beaconsfield Villas, Brighton BN1 6HE). Please use the slip on page 7: just mark all days/times when you are free, numbering them in order of preference, and indicate the number of tickets wanted and whether you would like to join a group for dinner. Send no money now! You will be notified of the outcome very soon after Feb 7th, and asked for your money then if the trip is on.

People who already have tickets from other sources, or would just like an informal social dinner, have sometimes joined the party for the meal, and that is welcome. If you would like to do this, please let Jennifer know in good time so that a large enough table can be booked, and you will be informed when the party is going.

Cheese Tasting Evening

Friday, 21st February 2014, 6.30 for 6.45pm, in Pevensey 5C11

A blind-tutored cheese tasting will be presented by Say Cheese of Sussex. ('Blind' means that we're not told until after the tasting what the cheeses are, but they will all be *local* cheeses.) Locally produced apple juice or wine will be provided as palate cleansers between tastes. We shall be given notes on the cheeses after the tasting and shall then have an opportunity to buy any we especially like (but no obligation). We'll finish the evening with a simple bread and cheese supper with salad accompaniments, so you won't go home hungry!

The all-inclusive cost for the evening is £9 per head. All are welcome but numbers are limited, so book early to ensure your place.

Please print and complete the form on page 8 and return with a cheque or credit/debit card details to Jackie Fuller, 21 Pelham Square, Brighton BN1 4ET, OR, if you are paying by card, the form and card details may be returned by email to jkfuller21@hotmail.com. The closing date is **31st January 2014**.

Recent Suss-Ex Events

Christmas Party

The annual buffet lunch for Suss-Ex and USPAS former staff and their guests on Tuesday 17 December was attended by 48 people from Suss-Ex and 102 from USPAS. We thank Sue Bullock and Tracey Llewellyn for organising this enjoyable event.

Brighton Early Music Festival

On 9 November a party of 10 shared an evening of lively early Portuguese and Brazilian music, together with a Portuguese picnic, at St George's Church, Kemptown.

Future Events

Royal Pavilion

Our April outing will be a special tour of the Royal Pavilion. Our guide will be Alexandra Loske, who is both an official tour guide at the Pavilion and a part time lecturer in art history at Sussex. She has also just completed a joint Royal Pavilion / University of Sussex doctorate in Art History. This will be a behind-the-scenes tour by an expert on the art of the Regency period and we hope to get access to areas not normally open to the public. Alexandra is an excellent presenter and speaker and has given many lectures on the Re-

agency to local groups including the U3A. She organised the recent exhibition 'Regency Colour and Beyond' at the Pavilion and is a committee member of the Regency Society. Alexandra will also join us for lunch in the newly refurbished tea room inside the Royal Pavilion. More details to follow, including date and cost, but if you wish to see Alexandra in action she is scheduled to appear on BBC TV on 31st January (please check with BBC website for precise date and time) speaking in the Royal Pavilion with Michael Portillo in his latest 'Great British Railway Journeys' TV series.

Chichester Theatre Visit

We are exploring the possibility of a visit to the Chichester Festival Theatre later in the year. As the main theatre is currently having a major refit ready for the 2014 season, the programme is not being published until March. We cannot therefore be more specific at this stage but we shall keep you informed when we have more details. Chichester is a wonderful town and we hope to combine our theatre visit with a visit to the magnificent Pallant House Art Gallery.

We are also considering visits to Ridgeview Vineyard, the Sussex County Cricket Club and the Keep. More details will be given in the next newsletter.

Academic Contributions by Retired Staff, 2013

For several years we have collected in January a list of retired members' research and related activities for the previous year. The reason for doing this is that many Suss-Ex academic members are, while notionally retired, still active in research, for which some access to university facilities is required. The extent to which our needs are met can vary from one part of the university to another, and sometimes, as a minority group, we simply get forgotten. Our contributions to the university's research output will continue to be of value. It seems likely that it will always be advantageous to those of us who wish to maintain our relationship with the research life of the university for our contributions to be noted. We are now compiling the record for calendar year 2013.

Please, therefore, send in, with your name and subject group affiliation, a list of your 2013 activities. These could include:

- publications
- conference papers and invited talks given
- fellowships
- prizes and honours
- new grants
- research students completing
- officerships in learned societies
- refereeing, doctoral examining, etc.

- even if notification of them has already appeared in the Bulletin.

This should if possible be done by email, please, and sent to j.platt@sussex.ac.uk as soon as convenient; we plan to include all the reported activities in a consolidated list in the next newsletter, and may use the list in club publicity.

Obituaries

Sir John Warcup Cornforth 7.9.1917 to 8.12.2013

The distinguished organic chemist and Nobel Laureate, Sir John Cornforth, who has died aged 96 following a stroke, played a major role in solving the complex biosynthetic pathway from acetic acid to the tetracyclic steroid cholesterol via the acyclic triterpene squalene.

In collaboration with the biologist George Popjak, he first provided experimental proof for the Woodward-Bloch hypothesis for how squalene cyclised to cholesterol. This required painstaking degradation of cholesterol derived from ^{14}C -labelled samples of acetate to identify the origin of each of its 27 carbon atoms and complementary experiments on the origin of the 30 carbon atoms in ^{14}C -acetate derived squalene. Cornforth next provided an explanation of how methyl groups are rearranged during conversion of squalene to cholesterol via the triterpene lanosterol, devising experiments which are now classics of tracer biology. Homogenates of whole tissues used in the early work were now replaced by purified enzymes. These were potential targets for the clinical control of cholesterol. Cornforth next synthesised a range of strategically labelled samples of the biosynthetic intermediate mevalonic acid. This allowed the many steps between mevalonic acid and squalene via head-to-head condensation of two molecules of the 15-carbon atom farnesol pyrophosphate to be studied and fully understood.

Study of the stereochemistry of the various enzyme catalysed reactions was now undertaken and, after some years of research, the stereochemical origin of all 50 hydrogen atoms in squalene biosynthesised from mevalonic acid was discovered. This work included synthesis of various intermediates in which one of hydrogen atoms of a CH_2 group was stereospecifically replaced by the isotope deuterium **or** tritium, and in a final ground-breaking series of experiments, samples of acetic acid stereospecifically labelled in the methyl group with deuterium *and* tritium were synthesised and used to investigate the enzyme malate synthase. The many contributions made in this work have stimulated studies on the stereochemistry and mechanism of a very large variety of enzyme catalysed reactions, many of which are important in drug discovery. It was for his work on the stereochemistry of enzyme-catalysed reactions that Cornforth was awarded the Nobel Prize in Chemistry in 1975.

Cornforth was born in Sydney, Australia in 1917 and, when he was about ten years old, he noticed the first signs of deafness. Total loss of hearing from the condition otosclerosis took more than a decade, allowing Cornforth time to consider professions in which deafness would not be an insuperable handicap. At the University of Sydney, unable fully to hear lectures, he learnt much by reading textbooks and the original literature, teaching himself German in the process. He graduated in 1937 with first class honours and the University Medal. During this time he acquired the nickname "Kappa" after the Greek letter he used to identify his personal laboratory glassware.

After a year of post-graduate study he and Rita Harradence, a fellow Sydney organic chemist, were awarded the two 1851 Exhibition Scholarships given in Australia each year. Kappa and Rita sailed to Britain in 1939 to work with Robert Robinson at Oxford, completing their doctorates on the synthesis of steroids. They married in 1941 and over the years collaborated on over 41 scien-

tific papers. The Cornforths worked on the wartime programme on penicillin, Kappa's insight leading to discovery of the structure of the penicillin degradation product penicillamine,

In 1946 the Cornforths joined The National Institute for Medical Research, first at Hampstead and then at Mill Hill. Kappa continued his collaboration with Robinson there, completing the first total synthesis of a non-aromatic steroid simultaneously with a synthesis by R B Woodward. It was at NIMR that Cornforth began the collaboration with George Popjak which continued when Popjak moved to Hammersmith Hospital. Popjak and Cornforth came together again in 1962 as co-directors of Shell's Milstead Laboratory. The head of Shell's research in the UK, Lord Rothschild, having the brief to upgrade research quality, recruited Popjak and Cornforth by promising them that they could spend 50% of their time on their own research interests and have a laboratory built to their own specifications. This became nicknamed "The Popcorn Laboratory". Popjak left Milstead for UCLA in 1968 when Cornforth continued collaborative research with the German biochemist Hermann Eggerer.

In 1975, the year that Rita retired, Cornforth left Shell to become Royal Society Research Professor at the University of Sussex where he embarked on a new and ambitious project to develop purely synthetic compounds which would mimic some of the catalytic reactions performed by enzymes. After retirement aged 65, he continued to work in the laboratory at Sussex until nearly 90 years of age. During this period in a paper subtitled "A Comedy of Errors" he solved a structural problem for which several erroneous "solutions" had been published over the years. He also provided a synthesis of the terpene abscisic acid and continued work in the area of heterocyclic chemistry.

Over the years Cornforth received, with the Nobel Prize (1975), many honours and awards, including the Chemical Society's Corday Morgan (1953), Flintoff (1965) and Pedlar (1968) Awards, the American Chemical Society's Ernest Gunther Award (1968), the Prix Roussel (1972) and the Royal Medal (1976) and Copley Medal (1982) of the Royal Society. Jointly with Popjak he received the Biochemical Society's Ciba Medal (1965), the Stouffer Prize (1967) and the Davy medal of the Royal Society (1968). He was elected to the Royal Society in 1953 and was a member of many foreign scientific societies. He was appointed CBE (1972) and knighted in 1975 and, having joint British-Australian nationality, was appointed Companion of the Order of Australia (1991), Australian of the Year (1975) and awarded the Centenary Medal (2001).

Cornforth is survived by his children Brenda, John and Philippa, grandchildren Catherine and Andrew and four great-grandchildren. Rita died in 2012.

Douglas Young

Obituaries of Sir John Cornforth have appeared in the *Bulletin* (20 December 2013), the *Sydney Morning Herald* (14 December 2013), *The Guardian on-line* (8 January 2013), *The Daily Telegraph* (10 January 2014) His wife Rita actively participated in his research and frequently attended lectures and seminars. She and her husband were awarded honorary DSc degrees by the University of Sussex on 13 July 1976. We are glad therefore to include an obituary for her, as follows.

Rita Cornforth

Lady Rita Cornforth (née Harradence) died in November 2012 after a long illness. She was born in Sydney in 1915 and educated at St. George's Girls High School where her interest in chemistry was stimulated by an exceptional teacher, Lilian Whiteoak. She was awarded the top state scholarship from New South Wales to study chemistry at the University of Sydney. She graduated with a BSc in 1936 and an MSc in 1938 and shared the University Prize with another eminent chemist, Arthur Birch. John Cornforth was in the year below her but they met in the research lab when she took a broken glass flask to him for help in mending it. They obtained 1851 Exhibitions to study for the DPhil in Oxford with Sir Robert Robinson, and although war broke out in 1939 as they sailed for England, they obtained their doctorates in 1941 and were married in that year. They worked on the synthesis of steroids and in the team working on the elucidation of the structure of penicillin. After the war they worked for the MRC at Mill Hill and then in 1962 joined the Milstead Laboratory of Chemical Enzymology run by Shell at Sittingbourne, before coming to Sussex in the mid 1970s. They published over 40 papers together. Rita's skill was particularly important in preparing the radiochemically labelled mevalonic acids that were pivotal to Sir John Cornforth's work on the stereochemistry of cholesterol biosynthesis. He makes this tribute in his Nobel Prize acceptance speech: "Throughout my scientific career my wife has been my most constant collaborator. Her experimental skill made major contributions to the work; she has eased for me beyond measure the difficulties of communication that accompany deafness; her encouragement and fortitude have been my strongest support". Many research chemists from all over the world who worked in laboratory 6, and beyond, will remember the hospitality that she and Sir John extended to them at their home in Lewes, as well as the rich fruit cakes which she baked for the lab tea club.

The Suss-Ex steering committee now comprises

Sir Gordon Conway, Chair G.Conway@imperial.ac.uk

Sue Bullock sue.bullock@hotmail.co.uk

Colin Finn colinfinn@btinternet.com

Jackie Fuller jkfuller21@hotmail.com

Charles Goldie c.m.goldie@sussex.ac.uk

Arnold Goldman a.goldman@cowbeech.f9.co.uk

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Adrian Peasgood adrian@peasgood.plus.com

David Smith j.d.smith@sussex.ac.uk

Paul Tofts UoS@paul-tofts.org.uk

Ken Wheeler kenpw11@talktalk.net

If you have comments or suggestions please get in touch with any of those on this list.



Theatre Trip booking form



Please be sure to submit this form to Jennifer Platt by Feb. 7th.

<u>Pygmalion</u>	Mon. Mar. 17, 7.45	Tues Mar. 18, 7.45	Weds. Mar. 19, 7.45	Thurs. Mar. 20, 2.30	Thurs. Mar. 20, 7.45	Sat. Mar. 22, 2.30
Date & time OK?						
Preference?						
How many?						
Dinner?						

Name:

E mail and/or postal address if you do not have e mail:

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SUSS-EX CLUB CHEESE TASTING EVENING

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 Suss-Ex Club Cheese Tasting Evening, Friday 21st February 2014

Booking Details (*to be returned no later than 31st January*)

Name(s).....

Address

.....

*For card payments, must be **home address**, where card registered*

Telephone

Email address

Please book place/s at £9 each

Total £

EITHER: I enclose a cheque for £..... (payable to **University of Sussex**)

OR: Please charge my debit/credit/Maestro card with £.....

CARD TYPE (VISA, MASTERCARD, MAESTRO ETC)

CARD NUMBER

Valid from.....to.....Maestro issue number

Security Code.....(*last 3 numbers on signature strip on reverse of card*)

Name on card

Signed