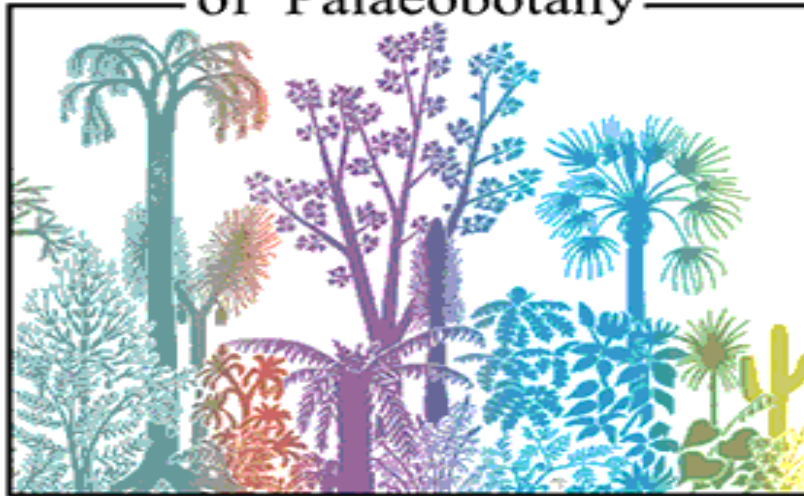


# International Organisation of Palaeobotany



## IOP NEWSLETTER 112

February 2017

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## Letter from the president

Dear Colleagues,

Thanks for the opportunity to serve as your president for IOP. Our shared love of fossil plants continues to extend worldwide and I hope that this organization will continue to thrive in promoting our discipline through open exchange of information, images, and ideas among paleobotanists, internationally. We owe the continuing success of this organization to a great many volunteers, who have contributed their time and energy as officers and representatives since the founding in 1954. Recently, we added to our website a historical listing of officers and representatives past and present, inspired by Gar Rothwell's pictorial review in the IOP newsletter number 111. In addition, all prior newsletters are accessible on the website, and we have begun to expand the paleobotanical biographies section, for which we invite new contributions.

Although electronic communications have greatly improved our ability to collaborate internationally over the past few decades, there is nothing as satisfying as meeting and discussing with colleagues and students face-to-face. IOP continues to promote not only our own conferences on a 4-year cycle, like the recent one in Salvador, Brazil, 2016, and the next one planned for Prague, Czechia in 2020, but also is well represented at other conferences. I look forward to meeting many of you at the International Botanical Congress in Shenzhen, China July 2017, and at the European Paleobotany and Palynology Conference in Dublin, Ireland, August 2018. Details are available at: [www.palaeobotany.org/page/forthcoming-meetings](http://www.palaeobotany.org/page/forthcoming-meetings).

The IOP website remains an important hub for our communications and for joining online and for membership renewal. Hongshan Wang served as interim webmaster from Sept. 2016 to January 2017, and helped to update content and fix some inoperative functions of the site. I thank him for his many hours of service and for teaching me how to manage routine tasks in the absence of a dedicated webmaster. Lutz and I can readily update content within the current structure of the website, and we welcome news from members (e.g., meeting announcements, links, paleobotanical biographies, etc.), but more significant upgrades to the website will require someone with appropriate experience willing to volunteer as IOP webmaster. If you or one of your colleagues might be interested to contribute in this way, please let us know (details below in this newsletter).

I thank Nareerat Boonchai and Honghe XU for managing IOP's presence on the social media Facebook and WeChat. Their positions as IOP Correspondents were formalized by invitation of Secretary-Treasurer, Lutz Kunzmann, following procedures outlined in our bilaws.

On a personal note, I must say that I am embarrassed by the man who claims to be president of my own country and I do not approve of his antagonistic rhetoric and deeds. I hope that as part of the global community of scientists we can rise above such things.

With best regards,

Steve Manchester (Gainesville, FL, USA)

## Letter from past president

Dear colleagues,

As past president I would like to thank you for your confidence and support during the 2012 to 2016 term. Of course, my special thanks are due to the past Executive Committee and Members at Large. Looking ahead, I would like to congratulate the new EC headed by Steve Manchester! The XIV IPC/X IOPC in Salvador Bahia brought together more than 500 palaeobotanists and palynologists from all continents and we had very good conversations across all fields. I would like to express my sincere thanks to the conference organizers led by Francisco de Assis Ribeiro dos Santos (UEFS president). During former conferences we had several times discussions on whether or not IOPC and IPC should have joint conferences. This time, and I am really very happy about, there were anonymous decisions for joint conferences both in the General Assembly of IOP and the Council Meeting of IFPS. Steve Manchester as President and Lutz Kunzmann as Secretary quickly took over and thanks to Hongshan Wang, who explained his willingness to do the webmaster business for a transitional phase, the IOP website increases again its attractivity. I, myself, take over from Lutz Kunzmann as Regional Representative for Central Europe.

According to our statutes the Secretary is the driving force of IOP but IOP is also driven by input and information flow from the membership to the Regional Representatives and the Secretary. The contact of the Secretary to the Regional Representatives as well as the contact of the Regional Representatives to the membership in their region are essential communication tools worth being stimulated because they may be more personal. In this way, I would like to encourage communication between membership, Regional Representatives and the Executive Committee for an effective future of our IOP.

Sincerely,  
Johanna Eder (Stuttgart, Germany)

## In retrospect: IPC/IOPC-2016

The X International Organisation of Palaeobotany Conference in Salvador, jointly held with the XIV International Palynological Congress, was an enjoyable and successful event. Special thanks go to our colleagues in Brazil for their organizational work. During the meeting a regular IOP General Assembly took place. Detailed minutes are posted on the IOP website:  
<http://palaeobotany.org/page/about/minutes-of-the-IOP-business-meeting-Salvador/>

Compactly, during the business meeting results of the elections of the IOP officers (see below) as well as the winners of the Student Travel Awards were announced. Mike Dunn gave the financial report. The members agreed to inaugurate a Young Scientist Representative for each IOP region. Furthermore, IOP will be present in social media such as Facebook. The next joint meeting of IOP and IFPS will be held in Prague (Czech Republic).

Student Travel Awards:

Chris West: \$3000

Karolin Moraweck: \$2000

Brian Atkinson: \$2000

Andrew Flynn: \$1000

Jian Huang: \$1000

Meng Han: \$1000



## IOP Executive Committee and Representatives

### IOP officers:

President: Steven Manchester

Vice Presidents: Ruth Stockey, David Cantrill, Jiří Kvaček

Secretary/Treasurer: Lutz Kunzmann

Members at Large: Ignacio Escapa, Marion Bamford, Steven McLoughlin

Conference Member: [Jiří Kvaček]

### Regional Representatives:

Africa and Arabian Peninsula

**Marion Bamford** (South Africa).

China

**Zhe-kun Zhou** (China).

Eastern Europe (Poland, Czech Republic, Slovakia, Hungary, Romania)	<b>Maria Barbacka</b> (Hungary).
India	<b>Sudha Gupta</b> (India)
Asian Pacific (Japan, Korea, Taiwan) & SE Asia (Thailand)	<b>Toshihiro Yamada</b> (Japan).
Russia and central Asian countries	<b>Alexei Herman</b> (Russia).
South America (Argentina, Brasil, Chile)	<b>Georgina del Fueyo</b> (Argentina).
Central Europe (The Netherlands, Germany, Austria, Switzerland)	<b>Johanna Eder</b> (Germany).
Southern/Western Europe (Portugal, Spain, France, Italy, Turkey, Belgium, Greece)	<b>Cyrille Prestianni</b> (Belgium).
North America (Canada, U.S.A., Mexico)	<b>Yu-sheng (Chris) Liu</b> (U.S.A.).
Northern Europe (Ireland, UK, Sweden, Norway)	<b>Lil Stevens</b> (United Kingdom)

### **Young Scientist Representatives**

As proposed during the General Assembly in Salvador de Bahía (Brasil) and accepted by the members each IOP regional representative could be supported by a Young Scientist Representative. The Young Scientist Representative is a PhD student of young postdoc and is invited and selected by the Regional Representative. Young Scientist Representatives should better express young scientist's interest in IOP and encourage young people becoming a member of IOP.

Young Scientist Representatives already inaugurated:

China	<b>Han Meng</b> (China).
Eastern Europe (Poland, Czech Republic, Slovakia, Hungary, Romania)	<b>Emese Bodor</b> (Hungary).
South America (Argentina, Brazil, Chile)	<b>Maiten A. Lafuente Diaz</b> (Argentina).

Designation of Student Representatives from additional regions is pending.



## Short introductions

Maiten A. Lafuente Diaz – Young Scientist Representative for South America



Maiten is a PhD student of the Buenos Aires University at the Argentine Museum of Natural History “Bernardino Rivadavia” (MACN), Buenos Aires, Argentina. She has a Licentiate Degree in Biology focus on Systematic, Morphology and Plant Physiology from Buenos Aires University. Her major interests are Cretaceous floras from Patagonia, Morphology, Anatomy and Ultrastructure of fossil cuticles and the chemical composition of fossil foliar cuticles and its relationship with the paleoenvironment.

## Correspondents/social media facilitators:

Nareerat Boonchai (Thailand)

Honghe Xu (China)

## IOP website and social media business

### Appeal for new IOP webmaster.

We are greatly indebted to Dr. Alan Spencer, who originated and designed the IOP website in 2006 and volunteered countless hours of his time serving over a decade as webmaster. When he stepped down from this position last year he offered some advice for his successor. Dr Hongshan Wang kindly served in the interim, but has recently stepped down as well, leaving us webmaster-less for the time being. One of the modules on the site that is currently non-functional is the ability to upload a profile image of yourself that can be viewed as part of the membership directory by other members. Also, our ability to upload new fossil images to be shared is not functioning, although as members, you can still access the beautiful Rhynie Chert images uploaded by Prof. Hans Kerp several years ago. We ask your patience as we consider alternative solutions.

As we are still seeking a new webmaster to serve on our board, I would like to share insights from Alan Spencer, from an e-mail interview in October 2016---Steve Manchester.

Steve: *Could you let us know the kind of work entailed?*

Alan: Currently it entails HTML, Javascript and PHP coding, MySQL database management, and use of FTP. A working knowledge of the PayPal payment gateway is also needed, and the ability to use the

server administration interface (PLESK) is desirable. General copy-editing and image manipulation skills are required.

Steve: *Will we be able to keep the palaeobotany.org domain? Would this stay on the same server where it is hosted now--or are you asking that to change?*

Alan: The domain name will stay the same, the palaeobotany.org name is owned by the IOP and managed by the Palaeontological Association (a small renewal cost is associated with this every couple of years). The servers we use are owned and managed (free of charge) by the Palaeontological Association – this will not change, but a new service agreement is due to be signed soon.

Steve: *Are there particular security concerns that still need to be addressed? I heard there were some problems earlier this year, but don't know the details.*

Alan: The biggest concern is the old and out of date PHP code that the site currently runs on – which is now certainly not as secure as it should be. Other than that, the server is relatively secure and has user managed backup facilities. The issue we had 2 years ago now (I think) entailed the server failure after a software update; it had to be re-built manually (by me), resulting in ~95% recovery of data, but the loss some stored information. It is unlikely this situation will occur again any time soon, however regular backups of the site and database are recommended.

The screenshot displays the homepage of the International Organisation of Palaeobotany (IOP). On the left is a vertical sidebar menu with links: Home, About the IOP, Palaeobotany Meetings, Palaeobotany Links, Palaeobotanical Biographies, IOP Newsletter Archive, Palaeobotany Journals, MEMBERS AREA, Living Fossils, Miscellaneous Publications, and Unexpected Occurrences. Below the menu is a 'Members' section with a 'Login' link and a plus icon. The main content area features a 'Welcome' message, 'Meeting Announcements' listing upcoming meetings from 2017 to 2020, and a 'Recent Meeting' section. Below these are three columns: 'Announcements' with a link to the IOP Facebook site, 'Membership Join/Renew' with a 'JOIN NOW' button and login instructions, and 'Recently Updated' with a list of links to paleobotanical resources. The footer contains copyright information (© 2005-2017) and links to Terms & Conditions, Privacy Policy, and Site Administration.

Steve: *As the website is becoming more and more important to our organization, I wonder if you have particular recommendations of improvements that should be made.*

Alan: To be honest, the whole website and payment system needs to be re-done from scratch. The website is using old HTML3 and 4 whereas modern websites are now using HTML5. The current website is not designed for mobile phones and tablet, and should be updated to use responsive design. Nor is the website up to current accessibility standards for the blind/visually impaired. A

modern content management system (Wordpress/Drupal/etc..) should be considered as a potential replacement. I would therefore recommend that in the near future IOP uses its funds to pay a full-time professional person/company to create a new website (with membership payment system built-in) that can replace the current website and which can be easily managed by the incoming webmaster.

Alan.

Dr. Alan R. T. Spencer

Personal Website: <http://artspencer.uk/>

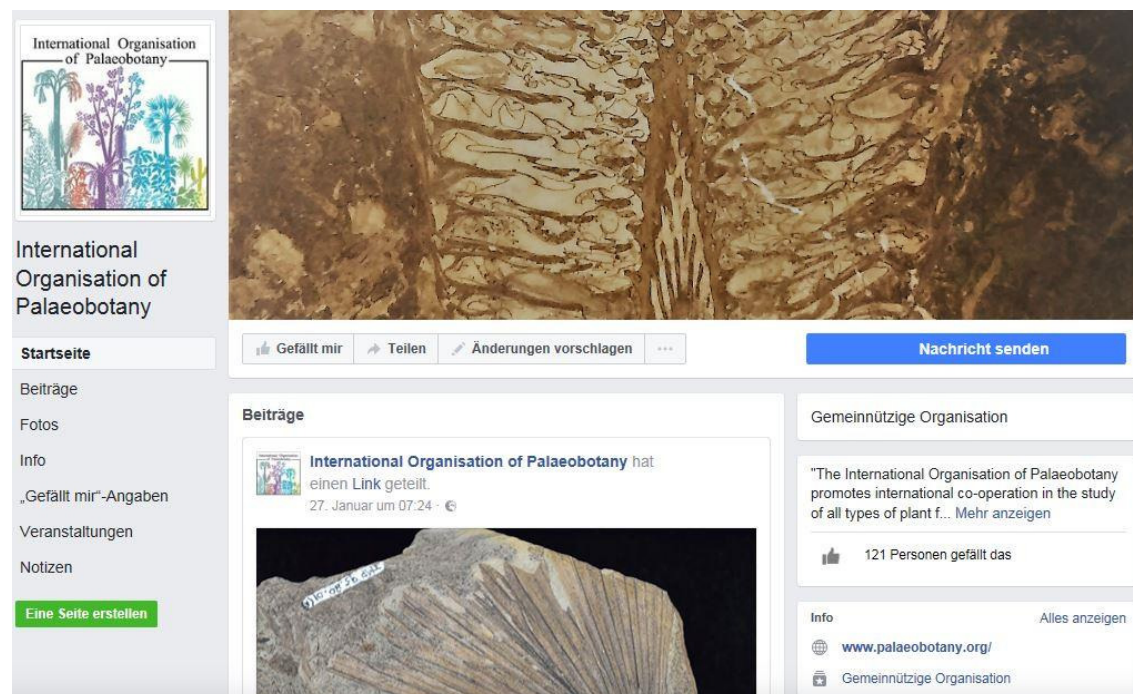
Department of Earth Science and Engineering

Royal School of Mines, Prince Consort Road

Imperial College London, SW7 2BP

### IOP on Facebook

In addition to our traditional means of communication, IOP is now represented in the social medium, Facebook: <https://www.facebook.com/International-Organisation-of-Palaeobotany-543548202500847>. The main pages are visible without membership requirements. We thank Nareerat Boonchai, Sarah Allen and Brian Atkinson for initiating this site on behalf of the executive committee.





# PROFESSOR WILLIAM GILBERT CHALONER (BILL) AND HIS CONTRIBUTIONS TO PALAEOBOTANY

Initiated and compiled by Margaret E. Collinson,

Earth Sciences, Royal Holloway University of London, February 2017.

## 1. Introduction

Bill played a major role in supporting and training palaeobotanists and palynologists. By co-ordinating and compiling this article and making it available in the IOP Newsletter I aim to place on permanent record a summary of Bill's amazing contribution to our subject, as a mark of respect for him, and gratitude to him for everything that he did.

After obtaining his PhD in 1953 at Reading University, UK, supervised by Professor Tom Harris, Bill held a Commonwealth Fund Fellowship (later "Harkness Fellow") at University of Michigan, USA working with Chester Arnold. On his return to the UK in 1954 he was drafted into Military Service in the Royal Artillery. Bill was appointed lecturer at University College London (UCL) in 1956. Bill moved to Birkbeck College London in 1972 to the Chair of Botany and then became the Hildred Carlile Professor of Botany and Chair of Botany at Bedford College London in 1979. When the colleges merged in 1985, Bill retained that Professorship and moved to Royal Holloway and Bedford New College (which later became Royal Holloway University of London). In 1987 Bill became head of the School of Life Sciences and he was awarded an Honorary Fellowship of the College in 2002. Until 1994 Bill, and other plant scientists, were based at Huntersdale, a short drive away from the main Royal Holloway campus. After his retirement in 1994, Bill became Emeritus Professor in Earth Sciences on the main campus at Royal Holloway (the same department as myself, Andrew Scott and Howard Falcon-Lang) where he remained until his death on October 13th 2016.

An earlier compilation with more details about Bill, his career and his work, can be found in Scott and Collinson 1993 Special Papers in Palaeontology No. 49 pp. 5-II. An obituary by Andrew Scott was published in The Guardian 19<sup>th</sup> December 2016. Andrew Scott and Pete Crane are compiling a biography that will be for the Biographical Memoirs of Fellows of the Royal Society. These Memoirs are published in one volume per year, so publication is expected in 2017 or 2018.

**Acknowledgements:** Numerous people have helped with this contribution by providing information, checking facts and enabling me to contact people who had worked with Bill. These include: all those who wrote their own contribution (see section 3.2.3); John McNeill (Royal Botanic Gardens, Edinburgh) for nomenclature matters; colleagues from Royal Holloway University of London library and archives (Adrian Machiraju, Annabel Valentine, Leanne Workman) and Senate House, University of London archives (Richard Temple); former Birkbeck College staff (Richard Dawes); former undergraduates who took the Palaeobotany course (Josh Salter); many present and retired staff from various Institutes and Universities around the world including Royal Holloway University of London (Tony Stead), University of Portsmouth (Brian Daley, Nick Edwards, Janet Woodford); Monash University (Jennifer Roland) and other palaeobotanists (especially Marion Bamford, Maria Barbacka, David Batten, Pat Herendeen, Grzegorz Pacyna, Judy Skog and Fresia Ricardi-Branco).

**Towards an archive:** I hope that the content below will serve as one element of an archive about Bill's contributions to Palaeobotany. In addition, Bill's reprint collection, his fossil plant teaching collection, his 35mm slide collection and his photograph albums (of scientific visits, class groups, lab members and researchers etc.) are all currently in Earth Sciences at Royal Holloway. The aim is that these should be archived somewhere in future. For the photographs the intention is to re-photograph them to create an electronic archive. The 35mm slides are being sorted and those of palaeobotanical and other long-term interest will be photographed in groups in such a way as to record the image plus the labelling. These will also be made into an electronic archive. The future of the reprints and the specimens is currently being considered.



William (Bill) Chaloner (1928 – 2016) (photograph: anonymous).

## **2. Overview of contributions by Bill to the Wider Palaeobotanical Community**

**IOP:** – Bill was President of the IOP from 1981 to 1987 and, prior to that, was Secretary in the early years until 1977 (See IOP Newsletter 111 appendix by Mike Boulter).

**Nomenclature:** special thanks to John McNeill (Royal Botanic Gardens, Edinburgh) for this information.

Bill became a member of the “Committee for Fossil Plants” (i.e. the permanent nomenclature committee for fossil plants – now the “Committee on Fossils”) after the XI International Botanical Congress in Seattle in 1969. He became Chair of the Committee six years later at the XII IBC in Leningrad in 1975, a position from which he stepped down at the XV IBC in Yokohama in 1993, when

Rob Fensome succeeded him. Bill was also elected a member of the General Committee for Botanical Nomenclature at the XIV IBC in Berlin in 1987 and served on the General Committee until the Melbourne Congress (XVIII IBC) in 2011 (though he did not attend the Melbourne Congress). He served as a member of the Editorial Committee for the *Sydney, Berlin, & Tokyo Codes*, i.e. from 1981 through 1994. He succeeded James F. Schopf as the palaeobotanical specialist on the Editorial Committee, and, in turn, was succeeded by Judy Skog for the *St Louis Code* published in 2000.

**Reviewing:** It is very well known that Bill reviewed many research papers devoting a great deal of time to this task. What is probably less well known is his major contribution to book reviews. Apart from those that were published, these included many short “abstract style” reviews of books for the Association for Information Management (ASLIB) that was a British association of special libraries and information centers founded in England in 1924 as Association of Special Libraries and Information Bureaux. ASLIB was disbanded around 2000 and so far it has not been possible to discover how these reviews were used in the libraries or if there is a permanent record of them.

**MSc in Micropalaeontology at UCL:** Bill contributed the palynology teaching to this course from at least 1965 onwards (probably earlier) at UCL and this continued while Bill was at Birkbeck and perhaps beyond. Unfortunately, it has not been possible to obtain more specific information.

**University of London Live-NET video link:** Bill was a staunch supporter, champion of, and organiser of courses for this system. Live-NET allowed courses consisting of specialist topics, delivered by an expert at one of the London Colleges, to be attended by students at some of the other colleges through live video link (the forerunner of modern streaming and webinars). In the 1980's (and possibly later) a Botany course, consisting of 6 different topics (4 lectures each), ran on Thursday evenings 17.00-19.00. We know that Bill taught in this but we do not know the topic(s) he taught. Other contributors included Jeff Duckett, Brian Ferry and Richard Strange.

**Palaeobotany undergraduate course:** It has not been possible to confirm all the details of this course but it certainly ran at least from 1965 onwards (probably earlier) while Bill was at UCL and then Birkbeck. It continued at Bedford (under the number B23, when Ken Alvin was the external examiner) and continued at Royal Holloway (as B323) until at least including the 1988/89 academic year. Many of the people who have sent articles (see section 3.2.3) attended this course and many also assisted with the teaching of it while studying with Bill. Wherever it was taught the course was made available to participants (who could attend the taught venue) from all London colleges and from research centers such as the Natural History Museum. When the course ran at Huntersdale, Royal Holloway, Bill would collect students coming from Central London (such as Kings College) at Egham rail station and return them there after the course. There were field trips associated with the course, which varied over the years, including to the Royal Botanic Gardens, Kew; to the tip heaps of Carboniferous coalfields (such as Kilmersden near Radstock, Somerset and Writhlington, Kent), to the Yorkshire Jurassic around Whitby, and to see peat-forming plants and collect peat cores from Thursley mire in Surrey. The lectures and practicals spanned Palaeobotany and Palynology from Proterozoic to Quaternary, including techniques such as peeling and maceration and visits to external commercial laboratories.

### 3. Researchers who worked with Bill in laboratories in London University.

#### 3.1 Introduction and researchers with whom contact could not be made

During his career more than 40 palaeobotanists and palynologists worked with Bill for long periods in his laboratories in the various colleges of London University. These included PhD students, post-docs, research assistants and visiting researchers. Every effort has been made to recall, and obtain contact information for, all of these people. Sincere apologies are offered to anyone who may have been left out by mistake. All with whom contact was established were asked to contribute to this Newsletter and consider the following topics in their contributions.

- 1) How they came to have the opportunity to work with Bill.
- 2) When and where they worked with Bill
- 3) What topic they worked on with Bill
- 4) What their career has been since
- 5) Any special individual memories of their time with Bill.

Their contributions (see section 3.2.3) are provided in approximate date order of first arrival in Bill's lab.

For those listed below contact could not be made, so some basic information has been assembled. Publications by these researchers can readily be found by web searches for their names.

**Jane M. Pallot** PhD London 1961. "Plant Microfossils from the Oligocene of the Isle of Wight". It seems that Jane came to Bill's lab from Reading. There she would have had contact with Tom Harris and she had published on plant fossils. [Lewarne, G.C., Pallot J.M. 1957 Ann Mag Nat Hist Ser 12 Vol 10 (109), 72-79]. Jane published a major part of her thesis under a married name - Machin, J. 1971. Plant microfossils from the Tertiary deposits of the Isle of Wight. New Phytologist 70: 851-872.

**Ma Khin Sein** PhD London 1961 "Fossil Spores of the London Clay"

**Robin F. A. Clarke** (deceased). PhD London 1963/64 "British Permian and Triassic miospores"

**Marjorie D. Muir** (now Curtis). PhD London 1965 "The palaeoecology of the small spores of the Middle Jurassic of Yorkshire"

**Margaret G. Mortimer**. PhD London 1969 "Devonian spores of Southern Britain"

**Peter H. Smith** (deceased). PhD London 1984 "Fossil fungi from the early Tertiary deposits of southern England."

**Geoffrey T. Creber** PhD London 1984 "Growth rings in secondary xylem : their formation and interpretation through geological time".

**Peter McAllister Rees** PhD London 1990. "Palaeobotanical contributions to the Mesozoic Geology of the northern Antarctic Peninsula Region".

**Mervyn King** Mervyn had previously been a University or School contemporary of Bill and undertook research with Bill for c. two years between c.1990 and c.1993. Collective memory from his contemporaries at Royal Holloway is that he initially registered for a part time PhD but later found that he could not continue his studies for sufficient years to accomplish that. We believe that he submitted for, and obtained, a Masters degree (MSc or MPhil) but there is no archived thesis in the

library (MSc theses are not archived and archives of MPhil theses then depended on departmental policy). Mervyn studied large permineralised cycad seeds from the Middle Jurassic of the Queen Charlotte Islands, British Columbia, Canada. The same material was the subject of the paper by Chaloner & Hemsley 1992 in *Courier Forschungsinstitut Senckenberg*, 147, 233-239.

**Rachel Brown** PhD London 1994 “Palaeobotany and plant taphonomy of Viséan volcanic sequences from northern Britain”

**Research assistants:** **Mike Crane** (at UCL ?1971-72); **Alison Hill** (at Birkbeck 1975-?77) and **Anne Sheerin** (at Birkbeck ?1977-78) – were research assistants who worked with Bill for one or two years. All were co-authors on publications with Bill which can be found easily by a web search. Mike went on to a museum career after leaving. The subsequent careers of Alison and Anne are not known. Between Mike and Alison were **Margaret Collinson** (1973-74) and **Catherine Rogerson née Davies** (1974-75) (see section 3.2.3).

**Research visitors:** **Oscar Rösler** was a visiting researcher with Bill at Birkbeck College for a short time in the mid 1970's and one of his former collaborators has commented that Oscar remembered that as a very happy time. One paper published around that time by Oscar was “The Brazilian eogondwanic floral succession” published in 1978 which can be found in English at this DOI: <http://dx.doi.org/10.11606/issn.2316-8978.v9i0p85-91> . Oscar continued his research on fossil plants working in the Institute of Geosciences of the University of Sao Paulo until 1995 after which he continued at the Centro Paleontológico de Mafra Universidade do Contestado until 2005. He is now retired and no longer conducting research.

**A. K. Pal** of the Geological Survey of India was a visiting researcher with Bill at Birkbeck College c. 1978 funded by a Royal Society Commonwealth Bursary. Their joint research included a study of the Carboniferous *Lepidodendropsis* flora from Kashmir published in *Nature* (1979, 281, 295-297).

### **3.2 Contributions submitted by, or compiled from information provided by, the named individuals**

#### **3.2.1 From Jean Galtier – special memories of long term collaboration and student exchanges**

I first met Bill in 1964 at the International Botanical Congress, Edinburgh when I was a PhD student. I was just publishing on a lycopsid gametophyte: of great interest for Bill who, at this time, had written most of the *Traité de Paléobotanique – II. Lycophytes*.

I highly appreciated Bill since the beginning of my career and early on we developed connections and exchanges between London and Montpellier with many "students" involved. The first was Bill's former undergraduate student John Holmes who started in Montpellier (!) a PhD study on British coal ball ferns. Thanks to field information provided by Albert Long, and with Bill's help, John and I were able to make several trips in the early 1970s collecting coal balls before the closure of coal mines in Lancashire. A little later Andrew Scott (who obtained His PhD with Bill) developed several projects with me comparing British and French Lower Carboniferous floras.

At the beginning of the 1980's Brigitte Meyer-Berthaud went from Montpellier to do post-doctoral research in London, working on lycopsids with Bill. A little later, Gill Rex, Alan Hemsley, and then Rachel Brown came from Bill's lab to do post-doctoral research with me, all studying Lower Carboniferous plants, spores and ecology.



I will not forget that, on several occasions, Bill gave great support to our palaeobotanical group. He also always enthusiastically attended professional meetings in Montpellier; the first one (1983) was under the joint auspices of the Linnean Society of London. I have wonderful memories of Bill and students at this and many other meetings in the UK and Europe.

After his retirement, Bill enjoyed coming for holidays with Judith along the Mediterranean coast in the Montpellier area. This was an opportunity for us to have one meal together and to chat about the latest palaeobotanical news... Actually, an important part of my professional life was linked to Bill and to the fruitful cooperations and friendships that we were able to develop during several decades. I am very proud of that.

### **3.2.2 Compiled by Margaret Collinson**

**Maria Reymanowna** (deceased 1997) and **Danuta Zdebska** – Maria and Danuta were visiting researchers to Birkbeck College during 1973. Both Maria and Danuta continued to study fossil plants throughout their careers. Danuta is now retired but continues her work in the Faculty of Biology and Earth Sciences of the Jagiellonian University in Krakow, Poland, studying Devonian and Jurassic floras.

**Karl Niklas** - was awarded a Fulbright-Hayes Fellowship to work with Bill at Birkbeck College during Autumn 1974 and Spring 1975 (while Karl was a curator at the New York Botanical Garden 1974-1978). Two joint publications resulted in 1976 one on Palaeozoic plant chemotaxonomy (Rev. Pal. Pal. 22, 81-104) and one simulating ontogeny of *Spongiophyton* (Ann. Bot, 40, 1-11). Karl is now the Liberty Hyde Bailey Professor of Plant Biology at The School of Integrative Plant Biology, Cornell University, Ithaca NY (USA). Karl comments that Bill was one of the brightest people he had ever met and Bill was very kind to him. Karl enjoyed his time in Bill's lab and misses him.

### **3.2.3 Original contributions by the authors listed**

#### **From John Pettitt**

I had found some plant fossils in the Permian of County Durham, where my parents then lived and, through the manoeuvres of an acquaintance, I got to show them to Bill Chaloner at University College London (UCL). A friendship developed. I was about 19 at the time. Bill encouraged me to read Botany and I applied to UCL - at that time there was an interview with the professor and senior tutor - and managed to get in.

I graduated in 1961 and enrolled at UCL for a Ph.D. with Bill as my supervisor. Shortly after that a position for a palaeobotanist to curate the Palaeozoic fossils at the Natural History Museum, London (then British Museum Natural History) was advertised. I applied for the post and was successful.

My Ph.D. on 'A comparative study of the fructification cuticles and spores of Palaeozoic and living plants' was awarded in 1966. It contained work forming the basis for several publications including with Bill in *Nature* 1963 on a Devonian seed megaspore (my first publication).

At the beginning of 1967 I travelled to Ann Arbor to take up a NSF post-doctoral fellowship at the Department of Botany, University of Michigan, working with Charlie Beck. It was a productive association - we discovered the first cupulate Devonian seed, which was announced in *Science*. What is poignant in retrospect is that this is the same passage that Bill had taken to work with Chester Arnold some years earlier.

Thereafter my interests diverged. I began to study the developmental mechanisms of heterospory and later the reproductive biology of cycads, conifers and seagrasses. I transferred from the Palaeontology Department to the Botany Department in the Natural History Museum in 1976. The seagrass work was interesting. We set up a system for the “*in vitro*” pollination of a species native to Australia. The work was recognised by various publications and I was awarded Fellowships from the Royal Society and the Leverhulme and Nuffield Foundations to pursue this work.

I was awarded a D.Sc. in 1983. My last publication with Bill, indeed my last publication with any palaeobotanical interests, was *The Inevitable Seed* delivered at a Louis Emberger Foundation symposium in Montpellier in 1986 and published in 1987 *Bulletin de la Société Botanique de France: Actuel Botanique* 134, 39–49.

I began structural studies on incompatibility in conifers, including some work with the Forestry Commission in the UK looking at pollination strategies for larch hybridisation. In 1987 I was awarded a Senior Research Fellowship in The Plant Cell Biology Research Centre at the University of Melbourne and I resigned from the Natural History Museum and moved to Australia. Shortly after arriving, I received a grant from the Australian Research Council for work on the interspecific incompatibility reaction in conifers.

I enjoy a challenge and this came when I was asked if I was ‘interested’ in ‘restoring’ the electron microscope unit at the Department of Pathology and Immunology at Monash University Medical School. The post involved some undergraduate teaching and graduate supervision. I appointed a post-doc for the conifer study and began the restoration.

My research at Monash Medical School (MMS) was directed towards understanding the mechanism of membrane biogenesis and intracellular transport. This demanded the development and application of new preparative techniques to replace established methods.

I set up a cryopreparation facility in the Electron Microscopy Unit at MMS. The objective of my research was to elucidate mechanisms of membrane biogenesis and intracellular transport during the development and differentiation of polarized epithelial cells and to develop optimal methods of cryopreparation. The work attracted grants from the Australian Research Council and was published in *Journal of Cell Science*, *Histochemical Journal*, *Trends in Cell Biology* and *Immunology*. The last paper in 1997 was my swan song to science. I have now retired and live quietly on a farm in rural Australia among the animals, my music and my books, attempting photo collage.

A reminiscence. I was with Bill at the Kent or Radstock (Somerset) coalfield - I cannot remember which, it was a long time ago. I was an undergraduate at the time. We planned to spend the night under canvas and Bill brought all the necessary gear including two air mattresses that one had to inflate by blowing air into them by mouth. When the time came to sleep, he gave one mattress to me and kept one for himself. We blew our respective mattresses up and settled down. Unfortunately, Bill’s leaked. Throughout the night he had to keep recharging it, blowing and cursing. I knew all of this was going on but said nothing, feigning sleep.

### **From Mike Boulter**

1963 was my third year as an undergraduate at University College London. For a large part of the final assessment we had to plan and execute a research project. Eager to apply some of the Geology I had studied in the first year I asked Dr Chaloner, just returned from a year away in the United States,

if he would tutor me with a problem concerning fossil plants. It would be a fine contrast with all the molecular biology that made up most of the work in that so-called Botany Department. For it was evolution that interested me most, to understand the reasons for life on Earth.

Dr Chaloner – for that was how we all addressed him – gave me a generous amount of help in that work and it led to some new discoveries about Carboniferous lycopod sporophylls. We collected specimens at Radstock, in the Somerset coalfield, travelling with Klaus Leistikow, John Pettitt and Robin Clarke. We camped out in a couple of old army tents and much fun it was.

Just after I graduated I went off to lecture Biology to University of London External degree students in various London Technical Colleges. Advances in molecular biology throughout the 1960s were exciting topics for those students and my services were much in demand. But after a couple of years I received a letter from Dr Chaloner suggesting I write up the detail and results of my lycopod project for publication. So I returned to UCL once or twice a month to work on that project and to talk-through the manuscript for submission to the journal *Palaeontology*. This work was published in *Palaeontology*, 11, 445-457 in 1968.

With this completed it seemed right to move on to another project, something I could work at while lecturing the molecular biology in my new job as Assistant Lecturer Grade B at West Ham College of Technology. Dr Chaloner had just completed a feasibility study, for the British Geological Survey, of the pollen and spores from some strange clay pits in the Carboniferous Limestone south of Buxton in north Derbyshire. He generously passed the challenges of working out their significance over to me.

So began my own PhD study as a part-time student – evenings and weekends with the still-formal supervision from Dr Chaloner. I would go to talk in his top-floor rooms, an office and a lab, overlooking Gower Street, at least once a week. On my own there at weekends I prepared and examined the material I collected. Also working there were Margaret Mortimer and Lynn Allen, while there were frequent visits from Marjorie Muir, Norman Hughes, John Richardson and Ken Alvin. Dr Chaloner introduced all these well-established researchers to me and we met regularly at our different colleges. There were also visits to the lab by Vittorio Roveda, founder of Paleoservices Ltd, for it was the beginning of oil exploration in the North Sea and palynologists were in demand. I obtained my PhD on “An upper Tertiary flora from Derbyshire” in 1970.

After Bill moved to Birkbeck College his research groups widened with more students, more interests and research topics and more techniques. The diverse work also involved Bill in more administration, the House of Lords’ Enquiry on biodiversity in Co Durham, and much overseas travel. It was a pattern repeated at Bedford College in The Regent’s Park and by then, Dr. Chaloner had become Bill. There were visitors, often for several months, and by the time Bill moved again, to the merged Royal Holloway and Bedford New College, he was an old hand within the palaeontological community, as well as being one of the most broadly experienced and knowledgeable palaeobotanists of his generation. His experience with people, techniques, knowledge and teaching consumed us all as well.

It is hard to pick out a small number of examples of his activity, but two interests stand out in my catalogue of memories. One was his internationalism, whether it be reconstructing the global pathway of migration through evolution, representing Palaeobotany internationally at specialist meetings for specialist causes, lecturing to large plenary audiences at International Botanical Congresses, or being President of this International Organisation of Palaeobotany. The other special

talent is his enjoyment from the social company of his palaeobotanical colleagues and students. He was always eager to attend their monthly early evening meetings in a London pub, in the Seminar Room of the Botany Department every tea-time, and lunch in the pub or café beside The Regent's Park or Kew Gardens station.

He died just as my recent book *Bloomsbury Scientists: from Darwin to DNA* was being prepared for publication by UCL Press, just in time to add a page dedicating the book to his memory. With more time to reflect, Bill Chaloner will become a significant member of that august group.

#### **From Keith Fowler**

I first met Bill in the early 1960s when he was a Reader at University College London. I was a biology school teacher in Portsmouth with an urge to undertake palynological research in the Eocene/Oligocene of southern England on a part-time basis. I had contacted Bill having learned that his student, Jane Pallot, had completed a PhD thesis on this subject in 1961. As always, he was friendly and approachable. I showed him a few slides and poor quality photographs of pollen from an early middle Eocene lignite bed from Whitecliff Bay, Isle of Wight and he encouraged me to carry on the work. He generously allowed me to examine Pallot's unpublished thesis, and suggested that I examine extant pollen from Pallot's slide collection and make my own reference collection from Kew.

Bill was ever supportive during those early years and was pleased when, in 1966, I joined the staff of Biosciences at the now University of Portsmouth. There I was eventually able to register for a part-time PhD with Bill as my external supervisor. In the years that followed Bill and I maintained irregular but continuous contact. Bill was always generous with his time and advice leading to editing my early publications and finally I obtained my PhD "Aspects of palynology in the Palaeogene of the Hampshire basin, southern England" in 1981. In 1995 I took early retirement as Senior Lecturer from the School of Biological Sciences, University of Portsmouth and moved back to Wales in 1997 where I now reside.

Unfortunately, as a part-time student located on the south coast of England some distance from London, I was unable to visit regularly and spend much time in Bill's company. I do remember his subdued excitement when he placed a glass tube in my hand, which contained a small piece of moon rock! I have always held Bill in great esteem and respect. I particularly valued his warm self-effacing manner and willingness to help, and was often amused by his penetrating wit but delivered with humour.

#### **From Gerry Orbell**

I first met Bill Chaloner as an undergraduate at UCL in 1965 and in 1968 I undertook my final year dissertation under his guidance on the genus *Pitys* from the Lower Calcareous Sandstones. Mary (my future wife) and I were contemporaries and she was in the same laboratory working on *Thursophyton* also with Bill, for her final year project. No pressure there then. As graduate students, Mary became an ecologist – Palaeozoic plants possibly being too exciting – while I became a palynologist, extending Bill's earlier studies on the Rhaeto-Liassic of the Henfield Borehole. I obtained my PhD "The Palynology of the Triassic – Jurassic Transition in Britain" in 1972.

North Sea oil and gas exploration was beginning to be nationally important during that time and Bill was often called upon by a consultant called Roveda to provide an interpretation of offshore

palynostratigraphy. This in turn led to a number of possibly relevant field trips together in the UK. One in particular in 1970 to the Middle Jurassic of Cayton Bay with the UK Palaeobotanical Group, was made memorable by the attendance of Professor Tom Harris FRS, Bill's own doctoral supervisor at Reading. Bill was especially proud of Professor Harris because Bill said, "not only was his research on the flora of the Rhaeto-Liassic and the Middle Jurassic of exceptional value but he also managed to publish all of his work before he died (which had not always been the practice of others)"!

I believe Bill took inspiration from Harris particularly in his expert, enthusiastic and varied research and teaching. Certainly Bill always had helpful advice and guidance on whatever problem stumped me.

After my PhD I worked in the oil business: as a palynologist Burmah Oil 1972-74; Geologist 1974 – 78, Burmah Oil then with Oil Service Company of Iran; Chief Geologist Amoco North Sea to 1984; Exploration Manager at Fina North Sea 1984 -92; Director of Exploration and Production Premier Oil 1992 -95; Chairman Antrim Energy Inc to 2012; Chairman and CEO Sound Energy 2006 – 2013; Various other Board appointments over time.

Although as a post-doc I entered commercial life, initially in Australia and then elsewhere, Bill and I always kept in touch, latterly with a regular fish and chip lunch around Christmas time. Mary and I are still married – it looks as if it is working out – and we shall miss Bill who was a great friend and influence on us both.

#### **From Lynn Allen**

I first met Bill when I was a student on the MSc course in Micropalaeontology at University College London (UCL) 1969 – 1970. I chose the palynology option for my masters dissertation and worked on Triassic material from South Africa.

Bill had a vacancy for a PhD student at UCL starting in 1970 and was able to secure a Thomas Witherton Batt one year scholarship (from UCL) for me which topped up my two year grant. I worked on the palynology of the early Cenozoic deposits from the London Basin (Thanet beds to base London Clay). Bill encouraged me to compare the Cenozoic material with extant material as his former students (Ma Khin Sein and Jane Pallot (later Jane Machin)) had done for the London Clay and Bouldnor Formation respectively.

I was based in the Ecology Lab within the Botany section of UCL. As I was unable to drive at the time Bill very valiantly drove down to the coast so we could collect samples at Pegwell Bay and Reculver, to the Cobham area to see Woolwich Shell Beds and to Theale to collect the Reading Beds at Pincents Kiln.

At that time Bill was occasionally doing consulting work for Palaeoservices but he had built up a backlog. As he and the family usually went to the USA for the summer he offered me a holiday job analysing those extra samples. This ultimately led to me joining Palaeoservices as a palynologist in 1973 and continuing my PhD registered part time at UCL. I completed my thesis entitled 'Palynology of the Paleocene and early Eocene of the London Basin' in 1982. I worked with Palaeoservices, including for two years in south China, until 1988 when I moved to BP for three years until leaving to set up my own consultancy from which I retired in 2000.



## From Rosemary Falcon

I worked at Birkbeck College, London as a PhD student with Bill as my lead co-supervisor between 1971 and 1973. My other supervisor was Prof Arthur Cruikshank at the Bernard Price Institute for Palaeontology (BPI) in the University of the Witwatersrand ("Wits"), Johannesburg, South Africa.

My PhD research was on palynology in Karoo sediments but not in South Africa – I worked on sediments in what was then still Rhodesia, soon to become Zimbabwe. This was the first attempt to correlate the abundant sandstones and shales that occur in the two main basins in Zimbabwe, at 8 or 10 different sites (specific coalfields). I had about 20 borehole cores to work on and well over a 1000 samples. I correlated the microfloras and their successions against one main "lithological type" core in the central basin on which I had worked on for my Masters. Bill was the external examiner for my MSc, hence the choice of Bill as lead co-supervisor for my PhD. I obtained my PhD "A palynological comparison of Karoo sediments on opposite sides of the Rhodesian watershed with stratigraphic application" from the University of Witwatersrand in 1978.

I worked in the BPI at the University of the Witwatersrand for some time during which I was fortunate to have been invited to study and be trained in coal petrography in Germany in 1975. The German metallurgical industry were running short of coking coal at that time and wanted to import from other countries including South Africa and I was trained to be their "coal evaluator" in SA. In fact, the plan to export coal to Germany never did transpire but the opportunity I had been given led to the development of major coal petrographic-related projects in South Africa. I left the university in 1980 and started a research laboratory and consulting company during which time many projects were undertaken. These included the publication of a Petrographic Atlas of South African bituminous coals; a publication on adapted classifications systems for SA coals; in-depth quality evaluations of many of the regional coalfields; and a fascinating study of the combustion characteristics of our highly variable, mineral/ash-rich, generally inertinite-rich coals, used in all the country's power stations and a variety of industrial boilers (of which we have about 6 000 in SA).

It was only in 1995 that I returned part-time to the Wits joining my husband to lecture and supervise research in coal-related subjects. We "retired" in 2006 but were called back in 2007, my husband again part-time and I to take on the South African National Research Foundation (NRF) Chair in Clean Coal Technology in the School of Chemical and Metallurgical Engineering. This has kept me busy for the past 10 years during which time 50 or more PhD and Masters research students have passed through our hands. We are about to retire again, this year, but I am told as an impending Emeritus or two, we will still be in the wings helping our successor(s). Editing and writing the odd chapter for two forthcoming books (including one book updating the petrographic aspects of Southern African coals with Prof Nicola Wagner) will keep us busy along with 8 grandchildren!

Bill was very good to me whilst I was in London - tough though he was in standards and detail. I respected him enormously and I have forever been grateful for what he taught me at that time. He gave me so many new ideas which I brought back to South Africa and these have been handed on to dozens of students, not only in Palaeobotany but also in the coal science work into which I later moved.

## **From Andrew C. Scott**

I became interested in Geology at the age of 8 when I started to collect agates on the Ayrshire coast of west Scotland. By the age of 14 I was collecting fossils and, in particular, fossil animals and my first large collection was from the Jurassic of Besançon in France. When I was 15 I met Ted Rose, a lecturer at Bedford College in the University of London and he persuaded me to take my degree in Geology at Bedford College. By the time I started in 1970 I was already interested in microfossils and had in mind a career studying ostracods, perhaps even in industry. In our third year we were able to take courses run at other London Colleges. Wishing to complete my palaeontological education in 1972-3 I took the micropalaeontology course held at Kings College with the palynology taught by John Richardson and Marjorie Muir (one of Bill's former students) and the Palaeobotany course at University College with Bill Chaloner (even though Bill had moved to Birkbeck College in 1972 at the beginning of the course).

The course with Bill changed my life in many ways. Bill was an inspirational lecturer and excited my interest in fossil plants. Part of the course was an independent project so we agreed I could study the facies distribution of plant fossils in the Upper Carboniferous Coal Measures in two brick pits south of Leeds (I did not tell him that this was near the home of my girlfriend at the time). Bill encouraged me to think about a PhD and offered me one to study Carboniferous plants using SEM. I got my Geology degree and despite the fact that I had never studied Botany, he let me start research on the 'Palaeoecology of Carboniferous Coal Measures' in the September of 1973, at the same time as Margaret Collinson became his Research Assistant. I did, however, have to take evening classes in Botany! Bill also encouraged Margaret and I to take German classes so we could read the literature and also I took some Russian. A feature of the years at Birkbeck was not only the great atmosphere in the Department but the many visitors who came and some of whom I was to work with in later years. Bill was always supportive of students wanting to go to conferences. He arranged for me to get funds from the department to go to the Carboniferous Congress in Moscow in 1975 and arranged for his friend Sergei Meyen to look after me. He was always thinking of his students and young researchers starting out. I got my PhD in 1976 on "Environmental Control of Westphalian Plant Assemblages from Northern Britain". After 2 years at Trinity College Dublin I returned to take up a lectureship at Chelsea College, also in the University of London. I was able to send some of my own students to Bill's Palaeobotany course. We were also able to exchange visitors and post-docs and meet-up regularly. We continued to collaborate on fossil charcoal and on plant-animal interactions. However, in 1985, Bedford College and Royal Holloway College merged and the Chelsea Geology Department also moved to join the new College. Bill was Professor in the Botany Department and I joined the new Department of Geology. As our Geology building was not complete in 1985 Bill, with typical kindness, offered to share his lab with me. We also did some teaching together and over the years our relationship developed with joint research projects, PhD students and a joint post-doc.

When Bill retired in 1994 he joined our Geology Department (now called Earth Sciences) as Emeritus Professor, he continued his research and we continued with some joint projects. After I retired in 2012, I shared an office with Bill and typical of the man he always put others before himself making extra space for me. Bill remained both active and encouraging, always willing to take time to discuss an issue. He enthusiastically helped in the organization of a Royal Society meeting on Fire in 2015 and helped in the editing of the volume in 2016. He was planning new work right up until a few weeks before he died. We will all miss Bill's thoughtful and wise council, his depth of knowledge, quick wit and kindness.

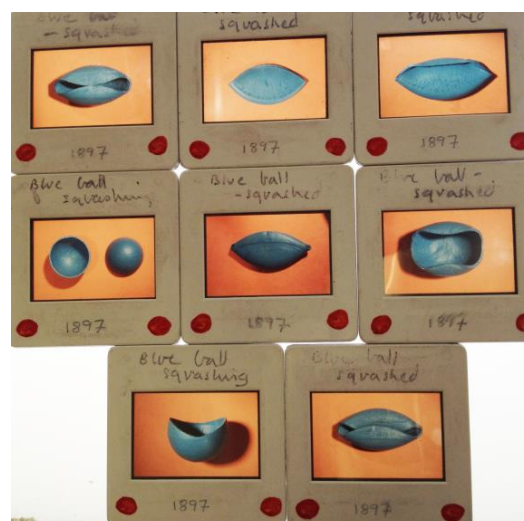
### From Margaret Collinson

I was an undergraduate studying Botany with Marine Botany at University College of North Wales, Bangor (1970-1973). Bill Lacey, [yes, Bill Lacey of the peel technique], taught vascular plants at Bangor including lots of fossil content. He also supervised my final year research project, a study of Carboniferous coal ball material. The entire department always met for coffee and tea in the foyer and during one conversation Bill Lacey suggested that I should go and meet his friend Bill Chaloner at Birkbeck College London.

So, with some trepidation, I arranged a meeting with Bill Chaloner in Spring 1973. I remember I asked him how he thought that coal balls formed – not such an ignorant question as it seemed to me at the time. Bill asked me to contact him again in summer with my BSc result at which time I was told that no PhD position was available but if I wanted I could be his Research Assistant. I followed Mike Crane in this role although we did not overlap. This led to a wonderful year gaining new skills and experiences. Notable memories include extensive SEM work (Bill had the 4<sup>th</sup> Cambridge stereoscan S600 to come off the production line); learning scientific photography, developing and printing; writing research papers as a co-author; and looking after visitors (including visiting the first laser hologram exhibition in London with Klaus Leistikow). The following year I accepted an offer of a NERC studentship with the chance to design my own PhD project, resigned from the RA post, and was supervised by Bill from 1974 to 1978 on “Palaeocarpological and related palaeobotanical studies of Palaeogene sediments from Southern Britain”. Bill and his son Michael accompanied me and helped on my first field season. Bill also drove (I do not drive) a group of us, enabling me to attend my first conference in Germany in 1976. The opportunity to act as postgraduate demonstrator for Bill in classes at Birkbeck College (which ran in the evening from 18.00 to 21.00 as the undergraduates mostly had full time day jobs) gave me my first opportunity of supporting student learning and the realisation that I enjoyed that experience, even that late in the evenings.



Variability in Recent *Ginkgo* leaves and their implications for fossil species concepts (specimens mounted on card covered by acetate sheet), (photo: Margaret Collinson)



Squashed blue rubber balls and the implications of compression in the fossil record (from Bill's 35mm slide collection, squashed specimens were photographed under thick sheets of weighted glass; date of photographs uncertain but thought to be mid to late 1970's), (photo: Margaret Collinson)

After my PhD I moved to the Natural History Museum as a post-doc. and then, with a Royal Society University Research Fellowship (1983-1993), to Kings College London Plant Sciences (1983-1991) and Royal Holloway University of London Earth Sciences (1991 – present). Bill moved from Birkbeck to Bedford College, then to Biosciences at Royal Holloway (1985-1994) and on retirement became Emeritus Professor in Earth Sciences at Royal Holloway (1995-2016). Thus, since 1995, Bill and I were once again together in the same department. In the intervening years Bill had welcomed me to join him and his current students on various ventures of which memorable examples involved large groups driving to conferences in Montpellier and Frankfurt with camping and sight-seeing en route.

Bill willingly contributed to the 3<sup>rd</sup> year BSc Palaeobiology course that I co-ordinate, latterly with just one lecture (stomata and palaeoatmospheric CO<sub>2</sub>), and stepping down fully at the end of the 2014-2015 academic year. After Bill passed away, a 2015 graduate wrote to me to express sympathy and saying “I remember his lecture in the 3<sup>rd</sup> year palaeo course very well, a nice man, clearly passionate about his subject”. I couldn’t put it better myself. How fortunate I am to have had the privilege to work for so long with Bill - my career-long inspiration, mentor and friend.

#### **From Catherine Rogerson née Davies**

I spent but one year with Prof (aka Bill Chaloner). This was at Birkbeck College as his graduate research assistant (1974-1975). Margaret Collinson preceded me and Alison Hill succeeded me in that role. I had left before this publication was completed [Chaloner WG. Hill A, Rogerson ECW. 1978. Early Devonian plant fossils from a southern England borehole. *Palaeontology*, 21, 693-707] so Alison helped with that. I went back to Cardiff to work with Dianne Edwards funded by a NERC grant that lasted 5 years! I worked exclusively on Silurian land plants and we published a number of papers. I got married, had two daughters and left Palaeobotany. I taught Biology in what was then a comprehensive school and rose through the ranks to become the Head teacher. In 2008 I retired and now live on the Brecon Beacons in Wales.

But what about Prof? I spent but one year with him but it was a year that changed my life. He was all about nurturing, mentoring and providing opportunities. He was also so patient and always found time for everyone. I was the Welsh girl to whom he admitted that he sometimes didn't understand, owing to my strong accent! I was nervous but grew in confidence owing to his gentle encouragement and faith in me. In my first week, he gave me the task of finding somewhere for Oscar Rösler and his family to live. Considering that I was living with Margaret in Acton then, and hadn't found anywhere for myself to live, it was no easy task!

During my year Prof met a journalist to provide information for a biography on Marie Stopes. I think this may have been because he had met her when he was at Reading. We also went to visit Reading perhaps because of Tom Harris. Karl Niklas came to Birkbeck and studied my *Sawdonia* axes to find out their chemical composition. Prof took me to a Dinosaur symposium, where the theories on their demise ranged from sheer size to constipation caused by them ingesting alkaloids due to the arrival of flowering plants! Just another example of Prof taking me along and giving me an experience I have never forgotten. We also took part in an exhibition at the Linnean Society where we used stereoscopic lenses to show the 3D properties of *Dawsonites*.

I will always remember his shy smile and unassuming manner. He would sit, drink his tea and chat with Mrs Collett the cleaning lady, just as he would to a visiting dignitary. He would always ask

me to check his spelling. A lesser man could not have done that. That is the true measure of the man. My grandmother always said "Love the Giver". Prof gave so much in so many ways to so many.

#### **From Tom Windle**

I first met Prof when, as an undergraduate at King's College London, I studied his undergraduate Palaeobotany course in 1973. Fascinated by the subject, I applied for and undertook research work at Birkbeck with Prof on the Palynology of the Middle Jurassic of Southern England from 1974 for three years. Some of this work was published in *Rev. Pal. Bot.* 1979, 27, 173-184 and a major part in 1993 in *Special Papers in Palaeontology* number 49.

Thereafter I spent 20 years working for the oil company Amoco Exploration as a geologist, and later as a manager; most of my career was spent working on the UK North Sea. Following the merger of Amoco and BP (1998), I left and set up a small company (Ariadne Business Consultants Ltd) offering courses on business development such as Strategy, Project Management etc. Finally, I returned to the hydrocarbon industry as the CEO of a small exploration company (WHAM Energy 2003 – 2007) until we were bought out by a much larger company just before the crash of 2008. Along the way I picked up an MBA and BA in Humanities and Classics, both inspired by Prof and his infectious search for learning. Since then I have retired to Devon. Occasionally Prof organised a reunion for a few colleagues to which I was invited; I will dearly miss our conversations. [Prof asked to be called Bill but to me he will always be Prof out of a deep sense of respect].

Prof was the finest communicator I have ever come across, and I estimate I have had over 40 teachers, tutors and mentors in my life. The Palaeobotany undergrad course was considered a soft option. There is nothing soft about Botany or Palaeobotany but it always appeared that way with Prof. His teaching style was so compelling, engaging and coherent, so fascinating and so simple that it is no wonder people considered the subject to be soft. Each was an episode in an evolving drama and a lecture would begin with a brief recap of the previous offering in which a mystery had been solved only to lead to another botanical conundrum. The conundrum would be explored and answers uncovered and proffered. The lecture would end with a summary of the lessons learned but a subtle warning that the status quo could not be maintained – but sadly that story would have to wait for another week. *No! No Prof you can't do that! I don't want to wait till next week!* Prof's lectures were better than any drama or any 'who dunnit' and brought with them an unfailing desire to learn, apply scientific rigour and question every aspect of the subject.

These learned qualities have served me well throughout my career; I owe Prof a great debt of gratitude and I will never forget his contributions that so greatly enriched my life.

#### **From Hee Young Chun**

I graduated with B.Sc. (Geology) and M.Sc. (Biostratigraphy) from Yonsei University in Korea. I was recommended to undertake my PhD studies with Prof. Chaloner by Dr. A. J. Reedman and Dr. L. P. Thomas (formerly from BGS in the UK). They were working for the Anglo-Korean Mineral Exploration Group and the Korea-British Coalfield Investigation Group under a Technical Co-operation Programme jointly sponsored by the Ministry of Overseas Development of the U. K. and the Government of the Republic of Korea in the early 1970's.

The British Council and Colombo Plan sponsored me through the Ministry of Overseas



Development of the U. K. I started my research on fossil plants with Prof. Chaloner at Birkbeck College in 1976, and later moved to Bedford College with him. I obtained my PhD "Fossil plants from the Samcheong Coalfield, Korea and their stratigraphic significance" in 1980.

I returned to the Korean Institute of Geoscience and Mineral Resources (former Geological Survey of Korea) after this time in the UK and retired from that Institute in 2010 becoming an Emeritus Researcher there. During my time in the Institute, I held various important positions such as the Director of the Geology Research Division, the Director of the Planning Division and the Director of the Geological Museum.

From 1981 onwards I was also a lecturer in the fields of Palaeontology, Palaeobotany, Microfossils, Stratigraphy, Biostratigraphy and Sedimentology at Yonsei University; Seoul National University; Korea University; Ewha Women's University; Chungnam National University; Kongju University; Hannam University and Daejeon Health University. I was also an Invited Professor of the Chungnam National University, Kongju National University and Korea National University of Education from 1994 till 2013. I also contributed to plans for newly established natural history museums in Korea.

From 2007 to 2010 I was a Director of the CCOP (Coordinating Committee for Geoscience Programmes in East and Southeast Asia; Inter-governmental Organization for Geoscience based in Bangkok, Thailand) and I am now a member of the CCOP's Honorary Advisor Group.

My major research has been in the fields of Palaeobotany, coal-stratigraphy, biostratigraphy and stratigraphic correlation, Palynology and palaeoenvironmental interpretations of the sedimentary basins in Korea. This has been published in various books and maps including the Geology of Korea (Korean and English); Geological Map of Korea (1:1,000,000); Tectonic Map of Korea (1:2,000,000); Microfossils (Korean); Fossils (Korean); The Story of the Stones (English & Korean); World of Fossils 1 (Paleozoic), and 2 (Mesozoic); Natural Environment and Geology of the Eastern Coast of the Korean Peninsula (Korean); Natural and Geological Environments Guide along the No. 35 Jungbu Expressway, Korea (Korean); Paleozoic Plant Fossils from Taebark, Korea (Korean); Megafossils of Korea (Korean) and The Understanding of Geology (Korean).

### **From Mick Cope**

I first became acquainted with Bill Chaloner when I took a course unit in Palaeobotany as part of my degree in Geology at Birkbeck College in 1975.

The interest sparked by the course led me to apply for, and be accepted on, a NERC postgraduate studentship supervised by Bill at Birkbeck and Bedford Colleges from 1977 to 1980. My PhD was eventually awarded in 1984.

My thesis topic was "Some studies of the origin, nature and occurrence of charcoalfied plant fossils". This allowed a wide scope of study and the application of diverse techniques including scanning and reflected light microscopy and geochemical and sedimentological analysis.

After the studentship I joined the oil and gas industry where I have had a more than 30 year career starting as a geologist with Texaco in 1980 and progressing to more senior technical roles with Petrofina (1984-1999), Schlumberger (2000-2006) and Sound Oil (2006-2013). During my time with Petrofina, one of my managers was Gerry Orbell, one of Bill's former students – small world. Even smaller world that our career paths crossed again when he was the CEO at Sound! Today I consider

myself retired, but still undertake some consulting work.

What I really learned from Bill in the course of the studentship was how to communicate information and ideas – and to do so across disciplines and outside of my comfort zone. This was reflected in the range of conferences he encouraged me to attend and in the publications I/we generated. Perhaps the best example of this arose while researching the conditions for charcoalification in natural wildfires which raised some questions about oxygen levels in the atmosphere. A joint publication in *Nature* followed and to push me completely out of my comfort zone I did a broadcast spot about the topic on the BBC radio programme ‘Science Now’.

### **From Gill Eatough (née Rex)**

I was a PhD student with Bill from 1980-1983 in Bedford College, Department of Botany. My Ph.D was awarded in 1983 “The formation of plant compression fossils; experimental and sedimentological investigations”.

I have very fond memories of Bill as his research student at Bedford College. I was based in the Garden Laboratories at the college working on “plant compression fossils” and Bill, who cycled most days into college, would arrive on his bike and leave it in the entrance area. He always gave a cheery greeting and quite often would pop in to catch up on my work, making perceptive and encouraging comments. Bedford College was a wonderful place to study, in the summer the grounds were converted into grass tennis courts and I along with other members of the department would play tennis with Bill, usually doubles and it was always fiercely competitive with Bill always keen for a re-match! We also had a croquet lawn, by the Garden lab, Bill would often bring his many visitors, from all over the world, and we would baffle them with a game of croquet mixed with palaeobotanical discussions.

One of my fondest memories is of our trip to Montpellier to a conference when I was a post graduate. Bill drove a minibus full of us from London to the south of France and we camped on the way there and back enjoying time with him away from, I am sure, the day to day issues of running the department and supporting the College. It was a brilliant trip and I remember Bill botanising on the Camargue with Jean Galtier with us all in tow. It was my first introduction to Jean and Montpellier and I went on to spend two incredible years with Jean, Brigitte and John.

It was a privilege being one of Bill’s students and I learnt so much from him about treating people decently and properly but also how to research, think and problem solve, skills I have constantly used in my professional life. Following my Post-Doctoral Fellowship in France I returned to the UK and due to the difficulties of continuing in research we moved to Shropshire and I joined the teaching profession. My first post in 1987 was as a science teacher teaching Biology, Chemistry and Physics plus some Geology! Over the next few years I moved through the profession becoming a Head Teacher in 1999. I took up my current post, Principal of the Hadley Learning Community, in 2005, opening and leading a brand new all-through school in Telford.

### **From Else Marie Friis**

I worked as a post-doc with Bill Chaloner at Bedford College in Regents Park 1980-1981. Bill visited Kaj Raunsgaard Pedersen at the University of Aarhus in 1978 or 1979 and at that occasion he urged me to apply for a British Council fellowship to come to work in London. My application was successful

and I started my research at Bedford College in the summer of 1980. It was the best time in my early career and it was a great time to start. That summer palaeobotanists and palynologists from all over the world visited the UK to attend the first IOPC in Reading and the fifth IPC in Cambridge. Bill was a central person in these meetings and he made sure that all young scientists around him participated fully in the meetings and got the chance to meet all the important players on the scene.

When I came to London I had just finished my thesis on Miocene fruits and seeds from Denmark and started on a new project on Late Cretaceous flowers from Sweden that has followed me since. The initial work was done together with Annie Skarby from Stockholm. Bill acted as a mentor. It was typical in these days that the post-doc host educated the young scientists without being co-worker or co-author. Bill was an extremely supportive supervisor, unpretentious and kind. His way of thinking and teaching strongly influenced my future approach to research. His teaching was phenomenal – always in a simple language, clear and concise. I enjoyed that immensely as his teaching assistant. I particularly recall a talk Bill gave in Australia in 1981 for the Botanical Congress in Sydney on an enigmatic Triassic lycopod (published later in *Rev. Pal. Pal.*). It was like his teaching at college – the material and the problem was explained in a simple, but accurate manner and a compelling conclusion was presented that impressed the audience, but the talk was not over. Bill turned the fossil upside down and started again – reaching a new conclusion, this time completely different, but convincing and clear. This talk was an eye opener and very typical for Bill - be critical in your observations and twist and turn the problems over and over again before you accept the conclusion.

After London I worked as a research fellow at the University of Aarhus for some years and in early 1987 started as Professor and Head of Department of Palaeobotany at the Swedish Museum of Natural History in Stockholm, a position I held to the spring of 2015 when I retired. I still have a research project and have recently worked at Yale and at Oak Spring Foundation, Virginia together with long term collaborators Kaj Raunsgaard Pedersen and Peter Crane – both with connections to Bill. I have continued my work on Late Cretaceous flowers but expanded the research to include also material from the Early Cretaceous and new methods. Bill gave me confidence in my research and results and I often think about him with gratitude.

### **From Carol Lord (née Thomas)**

I took Bill's undergraduate course in Palaeobotany at the University of London in 1980-81 - at the suggestion of the late palaeobotanist Dr KL Alvin - when I was student at Imperial College, London. Bill's enthusiasm for the subject brought it to life and he was very approachable for a somewhat nervous undergraduate. Consequently, when it came to choosing a PhD supervisor, and a subject for my research, it was an easy choice.

I worked with Bill on my PhD between 1983 and 1986, which meant a first year at Bedford College followed by two further years at Royal Holloway and Bedford New College, University of London, at Egham, Surrey. The title of my thesis was 'Variation and Evolution in Plant Spores: Fossil and Living'. The research involved looking at morphological changes in spores to determine if there was any evidence of evolutionary patterns. My final thesis was externally examined by Dr K. Allen from the University of Bristol.

Bill was always very involved in the work, and full of fresh ideas and challenges. He came with me to collect samples at open cast coal mines, and somehow always managed to persuade the

on-site engineers to let us access the best seams - even when this required closer supervision to make sure that we were safe. I think his interest was definitely infectious. We had many vigorous discussions about the best ways of preparing the material too – always with good humour, even if not entirely with agreement.

Bill had a wide scientific perspective and helped his students to develop the same. He actively supported involvement in the scientific community, encouraging his students to attend conferences both in the UK and overseas, where we could meet others in the field and present our research. He made it easy too – because with such a respected and popular figure supervising your work, others were always interested in what you were doing.

As a consequence of Bill's involvement, the duration of my research was probably one of the most intellectually stimulating periods of my life.

But Bill was not just a narrow academic - he also genuinely valued his students as individuals and made the whole experience of studying an educational one in the broadest of terms, as well as great fun. I still recall with great fondness being included in a rather eventful trip via minibus to a conference at Montpellier in July 1983 – making friends and memories that I still have to this day.

I have since moved out of professional academia – but Bill's lively and enquiring mind, and his intellectual and personal generosity have remained an inspiration to me in all my subsequent endeavours.

#### **From Hugh Pearson**

*"Only connect!...Only connect the prose and the passion, and both will be exalted, and human love will be seen at its height."* EM Forster (1910) *Howards End*, ch.2.

Bill Chaloner and I were introduced in Manchester in March 1981 by my University of Leeds mentor, Alan Wesley (obituary by Pearson 2002). Bill was then at the Botany Dept. of Bedford College, University of London; there he encouraged me to apply for a research studentship to be supervised jointly by Bill and Dr CR Hill of the BM(NH)-now the Natural History Museum in London. This studentship ran 1981-84 and it involved research on Carboniferous lycopsids, initially in Lancashire coal-balls presented to the Museum by Drs Jean Galtier and John Holmes of the USTL, Montpellier, France. In 1981-82, I attended Bill's undergraduate B23 course in Palaeobotany that he taught at Regent's Park but which also involved excursions to RBG Kew, to Carboniferous coal tips at Kilmersden (Somerset) and Writhlington (Kent), and to collect from the Kent Tertiary at Cobham and Isle of Sheppey. In addition to the great wealth of knowledge Bill enthusiastically imparted to his students, he transferred many practical skills to us; how to use electron microscopy on fossil plants (which he had greatly developed, following Wesley's pioneering work in 1951); how to write papers for publication; how to speak at conferences. I benefited from Bill's *magnum opus*, his 1967 Lycopphyta contribution, (in collaboration with Prof. E. Boureau) to Vol.2 of the monumental *Traite de paleobotanique*. Bill arranged for me to spend 3 weeks in March 1983 at Jean Galtier's lab. in Montpellier, where I had been sending duplicate peels off English coal balls; Bill had been an external examiner there for the doctoral theses of Brigitte Meyer-Berthaud and his former London undergraduate student, John Holmes. There I was encouraged to consider Dinantian plants too and upon my return to London I rediscovered the type material of Witham's *Anabathra*, overlooked for 150 years. Bill helped me develop the concept of this reconstructed flemingitacean plant, including

nomenclatural considerations, that led to my first publication in Bull. Br. Mus.(nat. Hist.), Geol, 40, 265-292 in 1986.

In July 1983, Bill drove the Bedford College minibus (with GT Creber, ME Collinson, CB Thomas, GM Rex, JE Francis, PH Smith, K Bartram and me) to Montpellier for a Palaeobotany conference. This was, as Thomas recalls herein, a memorable event not only for its high quality of scientific papers and field excursions, but for the friendly contacts and collaborations amongst those of us there that it engendered, many continuing today over 34 years later. I was delighted when Bill asked me to demonstrate his B23 lab' sessions; that is where I met and taught, amongst others, Richard Bateman.

Bill also invited me to help him teach practical classes on extant plant diversity at Egham (Surrey) when Bedford College merged with Royal Holloway College in 1985. He also helped me to become a demonstrator at Goldsmiths' College, University of London before I took up a post as visiting lecturer at the Plant Sciences Dept., University of Reading. Whilst my research focus moved up the stratigraphic column to the Tertiary woods of my native Suffolk, Bill encouraged me to remain active more widely in Palaeobotany by joining him at the Kräusel symposium (Frankfurt-am-Main, 1990), by reviewing newly-published textbooks on fossil plants and to become, at his proposal in 1989, a Fellow of the Linnean Society of London. Bill honoured me when he asked me to be his joint author on a biographical account of the pioneering palaeobotanical work of John Lindley (Geol. Soc. Lond. Spec. Publs, 241, 29-39) published in 2005.

Bill's interest in writing about the history of our subject dates back to his 1958 obituary of, and subsequent biographical accounts about, MC Stopes; Bill also wrote obituaries on, amongst others his Reading mentor, TM Harris and the palynologist LM Cranwell (see references in Spec. Pap. Palaeont, 49, 5-11). This biographical interest, in what some might consider a trivial aspect of science, harks back to how Bill himself first became interested to enter fossil Botany. When I asked him about this, Bill said that, whilst an external student at Chelsea Polytechnic in the mid-1940s, Dr Duerden had suggested he read Stopes's introductory textbook of 1910 "*Ancient Plants*"; this lead him to go on to study Botany under TM Harris at the University of Reading.

As I moved from professional Palaeobotany into teaching secondary school sciences, and now in public relations with the nuclear power sector, Bill encouraged me to progress as an amateur palaeobotanist. On many occasions, often quite divorced from fossil Botany, I have used the lessons he taught me about how to communicate with people in general (see Forster quotation above). In his outstanding prose, both spoken and printed, Bill evidently followed Forster's advice and Stopes's contemporaneous style in presenting fossil Botany to a very wide audience. Although his *metier* focused on prehistory, Bill certainly knew how to live in the present (adoring his wife, three children, grandchildren and great grandchild) and he often looked to the future (*e.g.* planting trees in his own and other gardens). As Profs Margaret Collinson and Mike Boulter said at the Linnean Society's Palaeobotany Specialist Group meeting at Burlington House, London, on 23 November 2016, all who met Bill will retain personal memories of him (Pearson 2017). In addition to reading his many outstanding publications, palaeobotanists of the future who will not have met Bill will nonetheless benefit from his donations of fossils to the Natural History Museum, London and to the Hancock Museum, Newcastle-upon-Tyne (Cleevely RJ 1983 World Palaeontological Collections, BM (NH), London), plus the books he has given to the library of the Linnean Society of London. Amongst my own happy souvenirs of Bill, may I recall one hot afternoon in July 2005? Following a legalistic session, with voting on the typification of *Acacia*, Bill suggested we take a break from the



International Botanical Congress at Vienna by swimming at an FKK oxbow lake beside the River Danube; to use a contemporary idiom, what a cool idea-thanks Bill!

References.

Pearson, HL. (2002) Obituary: Alan Wesley FLS (1926-2004). *The Linnean*, London. 18 (3), 48-52.

*Idem* (2017) *In memoriam*: Bill Chaloner PPLS (1928-2016) and the chaloneresque approach. *ibidem*. 33 (1), in press.

### **From Brigitte Meyer-Berthaud**

Just after my first doctoral thesis dedicated to the systematics of some Mississippian lycopsids from Southern France in December 1981, I got a British Council Fellowship for a short post-doctoral stay in London. Bill Chaloner, who was at Bedford College, supervised the first three months of this stay, from January to March 1982. With him, I explored the links between lycopsid leaf growth and morphology, a work published in the *Botanical Journal of the Linnean Society* in 1983. This experience definitely changed the way I considered taxonomy and systematics and since then I have tried, as much as possible, to analyse how the range of morphological character states in a fossil plant could have resulted from a specific developmental trajectory. This experience also impacted my career when, in 2000, I decided to quit the Montpellier Institute of Evolutionary Sciences to lead a small team within a new structure centered on plant architecture, the Botany and Modeling of Plant Architecture (AMAP) laboratory.

Bill Chaloner was a very busy professor, involved in many duties outside his laboratory. Once a week in spring, however, Bill used to gather his team for friendly picnics on the beautiful lawn of Regent's Park. It was a time for all sorts of games, from discussing about the nature of enigmatic fossils to playing croquet. At this time of happy science, Bill appeared as a wonderful and inspiring leader.

### **From Jane Francis**

My time spent in Bill's lab as a NERC Post-doctoral Fellow 1982-4 was one of the best learning experiences of my career. Bill not only taught me about tree rings and palaeoclimates but also about how to be a good academic and to appreciate a wide range of scientific topics. More than that, Bill showed me that his generous spirit and engaging style created an international community of palaeobotanical friends who enjoyed intellectual challenges in Palaeobotany with enthusiasm and good humour. I remember how Bill delighted international visitors with summer picnic lunches next to the lake in Regent's Park near Bedford College, and discussed tricky science topics with diagrams in the sand on beaches in the south of France. On field trips he ensured that we searched for fossil plants but also had fun, mostly enjoying the sun. His wisdom and his smile is what comes to mind when I remember Bill.

### **From Phil Holmes**

I first met Bill Chaloner in 1985 whilst in the final year of my Geology Degree. The Geology department from Chelsea College had merged with those from Kings College and Bedford College with all three moving out to Royal Holloway that year. This gave the option of taking Bill's undergraduate Palaeobotany course which was then running from the Botany Department in

Huntersdale. Based on this I then also took an option for a final year research project based on the Carboniferous plants from the South Bank of the River Ayr. The specimens belonged to Andrew Scott but I used the Lab Facilities in Huntersdale.

Having done better than I expected in my degree Andrew Scott suggested that I think about a Ph.D. and we approached Bill Chaloner to help. We submitted a proposal to NERC for funding which was successful and I began my research in September 1986 under Bill's supervision. The research drew on both palynology and sedimentology and we co-opted Lynne Frostick from the Geology Department as a second supervisor. Three years later I submitted my thesis under the title "An Experimental Approach to Spore Taphonomy" with a successful defense in January 1990.

In 1990 I took a two-year post-doctoral position with Mike Boulter in East London, ostensibly to work on Jurassic Palynology. However, we spent more time on the "Names in Current Use" project for the ICBN and pulling together the first edition of the IOP "Plant Fossil Record" computerized database.

At the end of those two years further funding was not forthcoming and with a child on the way and a mortgage to pay I sadly left the world of Palaeobotany to join a computer training company. From there I rapidly moved into the growing world of networking and IT infrastructure. I have moved between several roles since but still work in the world of IT Infrastructure, currently responsible for over 140 sites in the UK. It is not as interesting but it pays the bills.

We met on a number of occasions in the intervening years – my eldest son studied languages at Royal Holloway and there have been a number of reunions in the Geology Department, both giving an excuse to visit. The greeting from Bill was always full of warmth but my fondest memories were from my years in Huntersdale. We held a small birthday party for him in 1989 with a mixture of homemade and shop bought items on the buffet. Alan Hemsley made cheese sticks in the shape of *Cooksonia*. Bill bought a very palatable elderflower wine of his own. Research output that afternoon was low.

I also remember a tradition at the time for doctoral students which has always amused me. While you were the student he was always "Prof" or "Professor Chaloner". The day you passed your viva he became "Bill". It seemed to mark the change from student to friend.

### **From Alan Hemsley**

I first encountered Bill Chaloner at an interview at Bedford College (London) where I had applied to read Geology and Botany joint honours. I do not remember much of our encounter other than his enthusiasm for my proposed degree choice. Bedford College was my first choice of University but I was never able to attend since, as a result of the merger with Royal Holloway, my chosen degree became logistically impossible and I elected to study Botany at Royal Holloway in Egham. During my degree, Bill also migrated to Royal Holloway and I managed to take his Palaeobotany module as an option. It was, not surprisingly, my favourite module. Palynology really stood out to me as a fascinating aspect of plant biology that I had never really considered. Bill brought ancient ecosystems to life and made sense of evolutionary aspects of plant biology with which I had struggled in other modules.

I graduated, and progressed (after a short period in the real world) to an MSc in Plant Taxonomy in Reading where some memories of Tom Harris remained. I chose a Palynology module as one of my

options and became further hooked on spores and pollen. I met Bill again during this period at a meeting on angiosperm evolution that I attended against the wishes of my MSc lecturers - good thing too as it was then that Bill told me of a PhD position he had on offer and suggested that I apply for interview. The rest of this story is known to many as I completed that PhD "The ultrastructure of fossil spore exines" with Bill in 1990, one of the best and busiest times of my life. After my PhD I took post-doctoral positions in Montpellier, France, and at Royal Holloway University of London before moving to Cardiff University, Wales, where I am now Senior Lecturer in the School of Earth and Ocean Sciences.

I will always remember Bill's consistent and enthusiastic guidance, his patience and kindness as well as his understanding of my pecuniary difficulties as a result of my preceding MSc. Best of all I remember the field trips, both during and after the PhD, often journeys to and from conferences and when we all tended to relax. Bill taught me not just the wonders of Palaeobotany and Palynology, but also that camping can be quite good fun - it's really just a different kind of thinking outside the box.

#### **From Tim Jones**

I was awarded a NERC funded PhD position at Royal Holloway and Bedford New College jointly supervised by Bill and Andrew Scott (Geology) from 1988 to 1991. I was awarded my PhD in 1991 "The nature, origin and recognition of fusain".

I am now a Reader in the School of Earth and Ocean Sciences, Cardiff University, Wales. I have moved away from fossil plants and now research into environmental Geology and Geology & human health.

I remember that my interview with Bill for the PhD was quite unique. Bill needed to be in London in the afternoon, so my interview consisted of him driving home from Royal Holloway to west London with me as a passenger. It was a very pleasant chat and when we got to Barnes he told me he was happy to offer me the place. I accepted, then took the train back to Egham.

#### **From Imogen Poole**

I started working with Prof Chaloner in the autumn of 1989 having enrolled for a PhD focusing on the Eocene London Clay 'twigs' from the southeast of England. It came about via a chance conversation one hot June day. The Finals were over and all final year undergraduates were invited to the annual Leavers' Afternoon Tea held at Huntersdale (the Botany department at Royal Holloway and Bedford New College - as it was then known). I had been interested in an opportunity to work for the Linnean Society in London and thought that there would be no harm in asking one of its most eminent fellows if any such vacancy existed. There didn't; but Prof did draw my attention to a far more exciting position that had yet to be filled – an NERC CASE award PhD studentship held jointly with the Jodrell Laboratory at the Royal Botanic Gardens, Kew and RHBNC. Since then I have never looked back.

In May 1993 I was awarded my doctorate for my thesis on "A Palaeoecological study of the London Clay 'twigs' from the Eocene London Clay" and went on to spend an exciting and varied career centered around plant anatomy but branching out and incorporating many other interdisciplinary fields all relating to reconstructions of past environments. It has taken me from the tropical rainforests of the Amazon to the icy wastes of Antarctica, from the archaeological past back

to the Jurassic, with a plethora of locations and geological periods in between. I have been lucky enough to work at, and with, various institutions around the world. Now having come home to roost I am an independent consultant for plant (wood) identification. This has given me the perfect work-life balance necessary to bring up a growing family.

My memories of Prof Chaloner are varied: the absent minded professor lecturing to undergrads unaware that his jumper was on inside out and its label on full display; a gentleman scientist who respected his students and their views, and was as receptive to new ideas and advice as he was to deliver them; a patient supervisor whose philosophy was to guide his pupils whilst giving them room to learn through experimentation, (the inevitable) failures and achievements; an academic whose knowledge covered a vast and enviable cross section of subject areas and disciplines; a stickler and perfectionist ("What are you doing, Imogen? The milk never goes into the tea first!"); a mentor and counsel.

Professor Chaloner was one of the old school. Put simply, they just don't make them like that anymore.

#### **From Nick Rowe**

My very first encounter with Bill Chaloner was the most memorable one. It happened on the occasion of the undergraduate Botany finals at Bristol in 1982. I was one of about twenty thoroughly nervous, students in the Botany Department herbarium waiting to be called in for our interview with the visiting examiner. There's nothing like a viva to concentrate the mind, especially if your project is a noted research interest of the special guest professor. I remember going in and seeing a rather dapper gentleman perched at the end of a massive interview desk. He'd clearly been scrutinising very intently—a look I later came to recognize well—my project on the surface morphology of *Lepidodendron* species from the Radstock Coalfield.

There followed a highly charged and critical-but-at-the-same-time-friendly discussion on a barrage of issues concerning leaf cushions, photosynthesis, green tissue on big trunks, why stomata are open after fossilisation, so called "true leaf scars" and "false leaf scars", new species and potential publication. I had a great time!

In the early 90's I was at Royal Holloway for a post-doc with Andrew Scott and during this time we must have had dozens of discussions with Bill; often taking place as somewhat exotic lunchtime picnics in his office. It is his jauntiness and energy that I remember most from these occasions.

A legacy from that first meeting has probably stayed with me over the years especially when conducting vivas and exams. I think I can say that I've tried and probably failed, to emulate that hallmark mix of criticism and generosity that he showed with such... style.

#### **From David Beerling**

I was very fortunate to take up my first post-doc position with Bill towards the end of 1990 as a freshly minted PhD student from Cardiff, University of Wales. At that time, the Biology Department of Royal Holloway and Bedford New College (as it was then) was based at Huntersdale, Egham, down the road half a mile from the grand Founders Building of the main campus; Huntersdale was an odd collection of buildings, including a converted house with labs. and a series of linked portacabins. A

few years earlier, in 1987, Ian Woodward reported in *Nature* that stomatal numbers of leaves of UK trees decreased (probably) in response to the 50 ppm rise in atmospheric CO<sub>2</sub> since the pre-industrial era. With typical perspicacity, Bill realized that this discovery opened the door to using fossil leaves as biosensors of past atmospheric CO<sub>2</sub> levels and had won NERC funding to develop this area of research. Before my interview with Bill and Michael Tooley from Durham, I remember reading and trying to digest Ian's paper. Tooley was involved because Bill's successful NERC proposal had been merged with a similar one from Durham. Anyway, under the pressure of interview, I managed to recall something about the Woodward paper and say a few sensible things (although I knew little about the Quaternary history of vegetation in the UK, much to Tooley's chagrin). This resulted in me being offered the post-doc position: 1 and ½ years at Royal Holloway and 1 and ½ years at Durham.

Of course, although I didn't realize it at the time, this was to be a profound step in my career. It was an exciting time to be in on the ground floor of the development of a new terrestrial CO<sub>2</sub> proxy. Ice-core data were appearing regularly in *Nature* through the late 1980s and 1990s and researchers were only just beginning to tie the glacial-to-present CO<sub>2</sub> changes documented in the ice bubbles to plant physiology, notably the group at Utrecht in the Netherlands and the Desert Lab. Arizona. I vividly recall Bill at that time being hugely encouraging and getting me to think more broadly about the global environment and plant evolution, and especially one day excitedly waving a copy of Bob Berner's 1993 *Science* paper modelling the effects of tree evolution on Phanerozoic changes in atmospheric CO<sub>2</sub>. Well, that paper, and my discussions with Bill about its implications for feedbacks between plants and the global carbon cycle, shaped my research agenda for the next 15 years.

Bill and I remained firm friends ever since I was a post-doc with him over 20 years ago; he was a hugely inspirational mentor for me and indeed most researchers who worked with him over the years. I have many wonderful memories of our times together but perhaps the occasion of my being elected a Fellow of the Royal Society was the stand out one. On a warm July evening, in 2014, my wife (Juliette) and I took the tube to Richmond to meet up with Bill and Judy at their local Italian Restaurant and celebrate together. We sat eating and drinking, and reminiscing a little about that first post-doc in RHUL where it all started and Bill raised a glass of wine to toast how things had turned out - a golden moment from the past.

### **From Jenny McElwain**

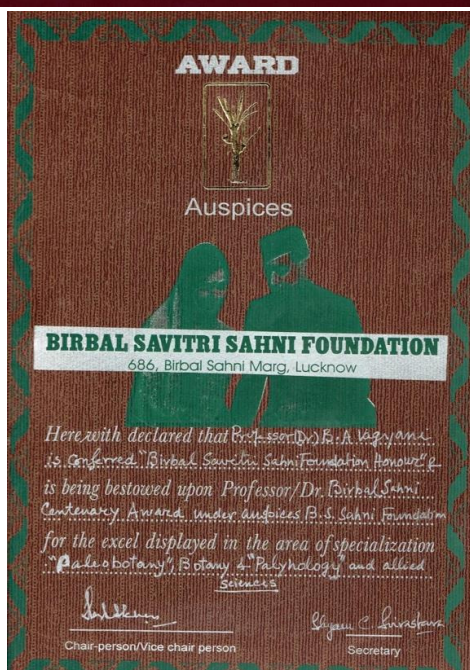
I joined Bill as a PhD student in September 1993 to work on a NERC funded PhD on 'Fossil Stomatal Parameters as Indicators of Palaeo-Atmospheric CO<sub>2</sub> concentration through Phanerozoic time'. I had become aware of Bill's work with stomata and atmospheric CO<sub>2</sub> as an undergraduate in Trinity College Dublin Ireland and wrote to him about 'hairy leaves' and how difficult they were to work with. My letter resulted in an invitation to formally apply for a PhD. Bill has been a great inspiration through my career and I am still working on fossil stomata and palaeoatmospheric CO<sub>2</sub> although I have branched out into fossil plant extinction events, diversity trends and the development of other palaeobiological proxies. My memories of Bill are his warmth and generosity and his ability of gentle persuasion to complete an experiment, to finish collecting data and to write that first paper. He was an inspiring undergraduate teacher and put equal effort into teaching as he did research. I also fondly remember cross continental trips to both International and European Palaeobotany and Palynology meetings with Royal Holloway and Kew staff, post docs and PhD students all loaded up into a minibus and camping our way across Europe.



## Prof. Vagyani receives award

The Birbal Savitri Sahani Foundation, Lucknow (India) honored Professor Dr. B. A. Vagyani with the *Birbal Sahni Centenary Award* for his excellent contributions to the field of palaeobotany.

The presentation took place during the Silver Jubilee National Conference on Plant Diversity: Past and Present December 30-31, 2016, which was organized by the Department of Botany, Sant Gadge Baba Amravati University, Amravati.



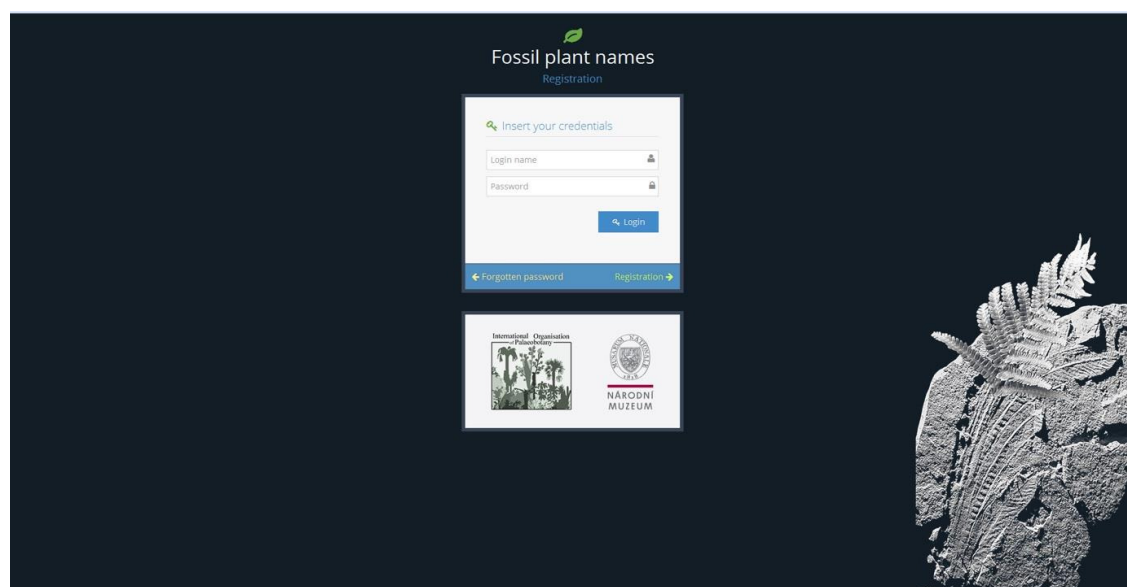
## Registration of names of fossil plants

Dear colleagues,

During the IOP Conference in Salvador, participants in the General Assembly meeting agreed that registration of fossil plant names will be in accordance with suggestions of the Special Committee on Registration of Algal and Plant Names (including fossils). There is general agreement about the act of registration, and acceptance of conditions postulated in an article published in Taxon (Barkowrt et al. 2016). In Salvador, we also negotiated with our fellow palynologists, who had their meeting in parallel with IOP. Because not much was known to them beforehand, they were not able to accept the act of registration. This letter is intended to get a basis for official agreement from the International Federation of Palynological Societies.

A few comments to the development of the registration process:

During the International Botanical Congress in Melbourne, a group of volunteers interested in the nomenclatural registration process was established, similar to that already used by mycologists. Subsequently, this group was transformed to a Committee. In palaeobotany, Jiří Kvaček was involved in the process. Later, more palaeobotanists were added to the Committee. Since EPPC Padova 2014, the National Museum Prague has been in preparations to become a registration site. The website is now accessible and ready to be used (<http://www.fossilplantnames.com>). Another institution prepared for registration of fossil plant names is the National Institute of Carpology [NICAR] from Moscow, Russia (<http://fossilplants.info/>). Conditions are open for any institution interested in registration (see Barkworth et al. 2016, (277) In Art. 42). Such an institution will be evaluated in terms of expertise, stability and sustainability. Any institution selected as a registration site should be endorsed by the International Organisation of Palaeobotany and the International Federation of Palynological Societies of low cost service in providing registration to IOP and IFPS, with clearly defined conditions.



In 2017, during the International Botanical Congress in China, official procedures of including registration to the Code will begin. By that time, all administrative issues and we as IOP members should be prepared for a smooth start of the **registration**.

Sincerely, Jiří Kvaček (Prague, Czech Republic)

The screenshot shows a web interface for 'Fossil plant names' with a 'Taxon Names Registration Form'. The form is titled 'Taxon Detail' and contains the following fields:

- Genus: Generic name
- Epiteton: Specific name
- Author(s) of name
- Stratigraphy: Select an Option
- Country of origin of type: Afghanistan
- Locality: A map showing the location of the fossil plant, with a red pin indicating the site.
- Typification details
- Diagnosis
- Email
- Comment

## Gender-bending in two English palaeofloras and some family stems: *corrigenda*.

*"It is about time somebody put an end to the traditional neo-classical shandygaff which is passed off as botanical Latin."*

Editor (1957). *New Scientist*, **3**: 1.

As we go further into the third millennium, it is hardly surprising that the continued use of latinized or latinate terms in current scientific research is regarded by many workers as quaint, if not mostly outdated and worthy of extinction. A working knowledge of classical Greek and/or Latin ceased to be a university entrance requirement for almost all subjects during the second half of the last century. One of the last vestiges of the applied Classics is the ongoing use of latinized names in biological nomenclature. For us palaeobotanists, we agree still to turn to the International Code of Nomenclature (ICN, formerly ICBN) to maintain cosmopolitan acceptance when we wish to establish or modify a fossil plant/palynomorph name (McNeill *et al.* 2012). As English, a non-Romance language in which almost all nouns are notionally neuter, is the modern *lingua franca* for most palaeobotanical publications, we should reach more often for a Latin dictionary to verify our masculine, feminine and neuter usages in binomials (binomers) in order to comply with Article 41 of the ICN. Having discussed elsewhere (Pearson 2014, 2016) the names of two plants from the Devonian of Scotland (namely *Aglaophyton majus* [K.& L.] DS Edwards and *Lyonophyton rhyniense* Remy & Remy), let me refer to examples of similar "gender-bending" from two internationally-famous floras of Mesozoic and Cainozoic age from England. There are a few comments to make about fossil plant family names too.

Our former IOP President, Prof TM Harris FRS PPLS etc summarized much of his decades of research on the Yorkshire Jurassic flora in five volumes (Harris 1961, 1964, 1969, 1979, Harris *et al.* 1974). Like CR Darwin a century before him, Harris had to be qualified in Latin before entering Christ's College, University of Cambridge, in the 1920s. Nevertheless, amongst the many new plant and spore names that he set up or revised, Harris was guilty of gender-bending in several instances. The bennettite leaf *Otozamites anglica* should be *O.anglicus* (Seward) Harris (1969) for its epithet to agree with its masculine genus name. Likewise, two other new combination names of his did not take account of their epithets needing a resultant change in gender; namely *Pagiophyllum gracilis* should be *P.gracile* (Bose) Harris (1979) and *Ginkgo longifolius* should be *G.longifolia* (Phillips) Harris & Millington (1974). He also perpetuated two comparable errors made by earlier authors in his use of *Ctenozamites cycadea* rather than *C. cycadeus* (Berger) Schenk (Harris 1964) and *Schizolepis liasokeuperianus* instead of *S. liasokeuperiana* CFW Braun (Harris 1979). Happily, such spelling corrections do not produce any concomitant change in the authority cited.

It is laudable that in the mid twentieth century, when the male bias amongst palaeobotanists was greater than today, Harris chose to commemorate certain women who had connexions with the Yorkshire Jurassic flora; viz. his research assistants the Misses MW Kendall (Harris 1961, 1964, 1979) and FM Quin (Harris 1969), Saint Hilda of Whitby Abbey (Harris 1969) and, presumably, the Margaret for whom, without explanation, he named the fern *Coniopteris margaretae* Harris (1961). In attributing eight epithets to these women, Harris used the genitive case to indicate possession (Stearn 1983). Whilst for five of these epithets he chose appropriate case endings to reflect these women's feminine status, Harris unfortunately chose a masculine ending in four of the species where he honoured Miss Kendall. Hence, *Horstisporites kendalliae*, *Dicksonia kendalli* (Harris 1961), *Nilssonia kendalli* and *Caytonia kendalli* (Harris 1964) should all have the epithet spelling he correctly used for *Hirmerella kendalliae* Harris (1979).

As another former IOP President, Prof. Margaret Collinson (1983) describes, the London Clay flora of south-eastern England contains many Eocene plants named by JS Bowerbank, EM Reid and MEJ Chandler. Gender-bending was happily a rarer phenomenon in their publications, perhaps because they were all educated at earlier dates than Harris. Nevertheless, one finds *Mimosites browniana* for *M. brownianus* Bowerbank and *Uvaria ovale* for *U. ovalis* (Reid & Chandler) Chandler (see references in Collinson 1983).

Article XX of ICN deals with forming new family names for plants, but that is the highest taxonomic rank to which that Code formally addresses itself. Happily abiding by the advice of Harris (1963) to avoid undue taxonomic inflation, more palaeobotanists establish new species and genera than they do new families or orders for fossil plants. Stearn (1983:103) reminds us that a new plant family name:

"... is formed by adding the ending -aceae to the stem of a legitimate name of an included genus ...".

So, for instance, Pilger and Melchior established the family Pentoxylaceae based upon branches named *Pentoxylon* Sahni and certain other related genera. However, Barnard and Long (1973) did not sufficiently "prune" the genus name *Buteoxylon* back to its latinized stem when they formed the family name Buteoxylonaceae. Consequently, Meyen (1987:168) adjusted this name to Buteoxylaceae. It is unfortunate that Barnard and Long's error was repeated when Taylor and Taylor (1993:492) set up their new ordinal name Buteoxylales; one should, if desirable, use the abbreviated Buteoxylales.

Such nomenclatural criticism, along with the preceding remarks on gender-bending, all have practically no significance in terms of real scientific progress; I should readily accept the charge of pedantry if it were cast in my direction. To a large degree, I am in accord with the 1957 remark quoted above. However, ongoing use of generic names with genders and the stem of generic names to produce familial names are accepted parts of the currently functional ICN. Rather than repeal these rulings, may I propose that authors who lack a Latin education might benefit from two additions to the Code; first, that any newly published generic name have its gender indicated by the author/s; second, that the Code give instances (like the *Pentoxylon/Buteoxylon* examples above) and guidance on how to form stems for names of new families. It seems almost inevitable that latinate binomials will eventually disappear from science, but in the meantime let us do our utmost to help each other use them in an internationally-agreed way to optimize our communication of knowledge.

Finally, may I take the liberty of correcting the authorship of the obituary of Miss MW Kendall that appeared in this newsletter (CleaL 2004). It includes a misspelling of *Brachyphyllum kendallianum* Wesley; that error, along with its mistaken authorship and any others in it and/or here are entirely my own.

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## The science of medullosalean frond reconstruction

Traditionally in palaeobotanical practice, a given medullosalean frond is reconstructed based on morphological properties that are inferred then projected to form the basis for a propositional frond architecture. The problem is that these properties are derived from smaller frond fragments that might not be even contiguous. Although this process conforms with inductive reasoning as is practiced in the sciences (Baconian process), it has experimental omissions, which are outlined following.

We consider that the reconstruction left out two decisive sources of information:

(1) laminate/rachial/cauline epidermises and (2) associate organochemistry. This, of course, is premised on the availability of suitable gross-morphological sample material combined with preserved organic material. We have started testing the hypothetical relationship between compression morphology and epidermal structure, and between phytochemistry and epidermal structure for reconstructive medullosalean frond Aufbau on specimens satisfying (1) and (2). Accordingly, spectrochemical data are evaluated by principal component analysis which allowed us to make the first-known predictions and testing of frond Aufbau based on chemistry and biomechanical modeling, respectively. The idea of relationship between structure and chemistry (extant plants) goes back to Linnaeus, de Candolle, and others, and is expressed as “the key to [extant] plant systematics is the chemistry of morphology”.

Provided diagenesis-induced chemical alteration of organic matter in plant remains was minimal, spectrochemical data obtained from different coalified tissues (frond parts) could be considered representative of those living plants. Thus, tracking chemical signatures and the associate epidermal morphology throughout a given medullosalean fronds opens up new possibilities not only for taxonomic and systematic studies but also for frond reconstructions. Using the combination of traditional and modern techniques of analysis makes it possible to determine or confirm the:

- (i) type of frond architecture i.e., 'bifurcate pinnate' (Alethopteridaceae), 'pseudo-pinnate' (Potoniaceae), 'bifurcate semi-pinnate' (Neurodontopteridaceae);
- (ii) order of a given frond rachis (i.e., ultimate, penultimate, antepenultimate);
- (iii) pinnule position in the frond (i.e., proximal or distal);
- (iv) supposed associations of disarticulated vegetative and reproductive frond parts i.e.,
- (v) organ homologies; and
- (vi) most probable position of ovule attachment to the medullosalean frond; and others.

Currently, other new methodologies we are developing allow us to estimate some mechanical properties (e.g., stiffness, strength, brittleness) of the organic compounds making up the fossilized tissues. The latter, in turn, permits the estimation of the likely biomechanical behavior of the once living-plant tissues such as the mechanical resistance of large fronds (several meters long) to strong winds or likely extreme weather conditions (cyclones).

Physiological characteristics of extant plant tissues are reflected in their chemical composition. Assuming that it was the case in extinct plants, the spectrochemical data obtained from fossil tissues will also show us a picture of the ancient wetlands, including the likely plant-environment interactions. Estimations can be made regarding the

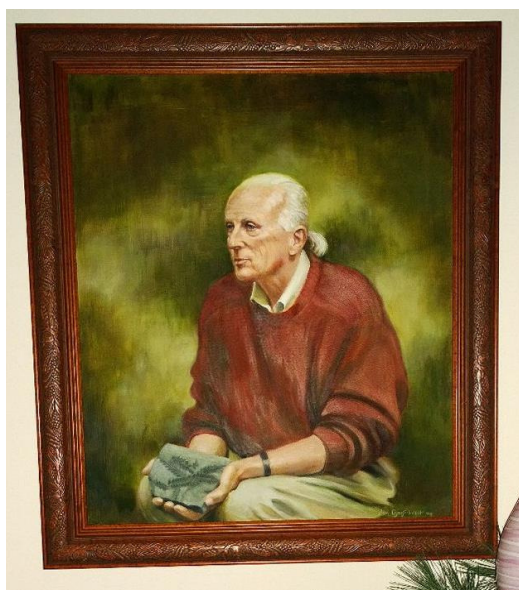
- (vii) possible carbon- and mechanical-based strategies of plant defense against herbivores and pathogens (e.g., production of exudates, tannins, and other polyphenols);
- (viii) soil-nutrient, water and light availabilities in different environments;

- (ix) carbon allocation to, and construction costs of, different tissues and organs;
- (x) survival rates and leaf live spans; and
- (xi) hydraulic efficiency of variously lignified vein types or venation patterns of different pinnule taxa.

Paleobotany of the 21st century will greatly contribute to the knowledge of extant plants, ecosystems, and climate change in a way as it was never imagined before.

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Erwin Zodrow with his favorite fossil *Neuropteris ovata*

## Upcoming meeting: IBC 2017 Shenzhen, P.R. China

During the International Botanical Congress, held July 23-29, 2017 in Shenzhen, IOP organizes a social and business meeting for their members who will attend the congress. This event, kindly organized by Xiaoyan Liu (Sun Yat-sen University, Guangzhou), takes place in the Four Seasons Hotel on 25th July. The dinner price will be about RMB 500 Yuan (ca. 70 €) for one person, including buffet and drinks (beers, wines and fruits juice). It will be collected in cash at the entrance of the restaurant.

All information, registration, deadlines and bookings for the IBC are available on <http://www.ibc2017.cn>



The banner features a scenic view of the Shenzhen skyline with the Zhenhai Tower as the central focus. The sky is blue with scattered white clouds. In the foreground, there are green trees and a body of water. The text is overlaid on the right side of the image.

**IBC 2017**  
XIX International Botanical Congress  
Shenzhen China

**Now** *The deadline for applying IBC 2017 Awards has been extended to February 28, 2017*  
*The deadline of submission of abstracts for poster or abstract only extended!*

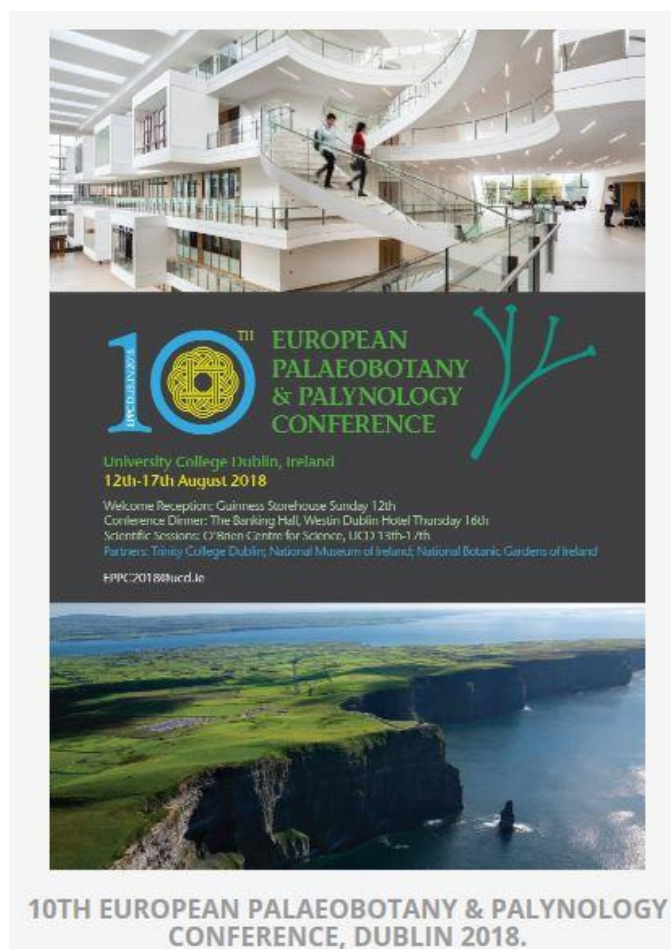
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Invitation to **IBC 2017** in  
Shenzhen, China  
July 23-29, 2017

We look forward to greeting you at the XIX International Botanical Congress in 2017.

## Upcoming meeting: EPPC 2018 Dublin, Ireland

The next European Palaeobotanical Palynological Conference will be held at the University College of Ireland in Dublin. Jenny McElwain and her group will organize the meeting in collaboration with other institutions in Dublin. All information, registration, deadlines and bookings for the EPPC will be available soon on <http://eppc2018.ie/>.



## Other upcoming meetings



### THE 5<sup>TH</sup> INTERNATIONAL PALAEOONTOLOGICAL CONGRESS

July 9th - 13th, 2018  
FRANCE

„The FOSSIL WEEK“

On behalf of the Organising Committee, we are particularly pleased to invite you to France for the fifth edition of the International Palaeontological Congress, the IPC5. Under the auspices of the



International Palaeontological Association (IPA) and with the participation of the whole French Palaeontological community, “the Fossil week” will be organized in 2018 in Paris, July 9th-13th. This event is a unique opportunity for our community to present its new results and discuss all aspects of our discipline.

We propose here some possible symposia and sessions. Of course, the list is provisional and it is still completely open. We are waiting for your proposals.

Fieldtrips are planned before and after the congress throughout France, Belgium and Italy. They will give you the opportunity to discover our palaeontological, geological and gastronomic heritages.

We hope to welcome many of you in France in 2018.

Contact details:

1<sup>st</sup> Circular available: [www.palaeontology.geo.uu.se/ISCS/IPC5\\_1stCircular.pdf](http://www.palaeontology.geo.uu.se/ISCS/IPC5_1stCircular.pdf)

The image shows a website banner for the CBEP 2017 conference. The banner has a blue header with the text "CBEP 2017" in large, bold, red letters. Below the header is a navigation bar with five tabs: "About", "Scientific Program", "Field Trips", "Venue and Travel", and "Organizers". The main content area is divided into two columns. The left column is titled "Climatic and Biotic Events of the Paleogene 2017" and contains a paragraph of text about the Paleogene Period, a list of four thematic areas (Climate Dynamics, Tectonics & Surface Processes, Ecosystems, and Biogeochemical Cycles), and two photographs. The right column is titled "Save the Date:" and contains the text "CBEP 2017, September 4-7 Snowbird Resort, Utah" and the Snowbird logo. The background of the banner features a scenic view of a mountain range with snow-capped peaks and a body of water in the foreground.

**CBEP 2017**

About Scientific Program Field Trips Venue and Travel Organizers

**Climatic and Biotic Events of the Paleogene 2017**

The Paleogene Period was a time of extremes and transitions. Bounded by the catastrophic extinction of the dinosaurs and the rise of modern grasslands, the world of the Paleogene was characterized by climatic conditions largely unfamiliar to us today but saw the rise of essentially modern continental configurations, biotic communities, and biogeochemical regimes. Understanding the function of these systems under global greenhouse conditions that may approximate Earth's climatic future is intriguing both for what it can tell us about our past and for the hints it may provide about our future.

Since 1989 the CBEP conference series has been a venue for a self-organized community of researchers to share and discuss the latest and most innovative ideas about Paleogene Earth systems. CBEP 2017 will be the next installment of this series, following on the very successful **Ferrara conference of 2014**. We invite participation from researchers worldwide who are pushing the frontiers of our knowledge of the Paleogene and the immediately adjacent Late Cretaceous and Miocene in four thematic areas:

- Climate Dynamics
- Tectonics & Surface Processes
- Ecosystems
- Biogeochemical Cycles

Abstracts will be welcomed beginning in winter 2016/17, and logistical information will be updated here as available. In the meantime, please feel free to contact us with questions or suggestions by [email](mailto:email). We look forward to seeing you in the mountains of Utah in September, 2017!

*Top: Paleocene freshwater limestone at Flagstaff Peak, Wasatch Plateau, Utah (photo: Gabe Bowen)*

*Bottom: Fossil Knightia from the Green River Formation, SW Wyoming (photo: Pete Lippert)*

**Save the Date:**

CBEP 2017, September 4-7  
Snowbird Resort, Utah

**snowbird**

© 2016 by the CBEP 2017 organizers. Contact: [cbep2017-organizers@rns.utah.edu](mailto:cbep2017-organizers@rns.utah.edu)

All information, registration, deadlines and bookings for the upcoming conference on **Climatic and Biotic Events of the Paleogene (CBEP 2017)** are available on: <http://cbep2017.utah.edu/>



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Newsletter edited by Lutz Kunzmann & Steven Manchester.

The views expressed in the newsletter are those of its correspondents, and do not necessarily reflect the policy of IOP.

Please send us your contributions for the next edition of our newsletter (113) until end of May 2017.  
Contributions should be sent to [Lutz.Kunzmann\(at\)senckenberg.de](mailto:Lutz.Kunzmann@senckenberg.de).

IOP Logo: The evolution of plant architecture (© by A. R. Hemsley)