CAMQUA

The newsletter of the
GODWIN INSTITUTE FOR QUATERNARY RESEARCH

ISSUE FOURTEEN ***MICHAELMAS TERM 1999***

CHANGING ROOMS!

If you go over to the Geography Department to find the Quaternary Palaeoenvironments Group (QPG), you will see that they have moved into what has become known as 'the other side' - a.k.a. a brand new suite of labs and office space in the recently refurbished Sir William Hardy Building (WHB), opposite the Geography Department on the Downing Site. On the ground floor can be found a microscope room housing the Laboratory Manager Steve Boreham, Harriet Allen and PhD students Katy Roucoux, Ian Lawson and the new editor of CAMQUA Becky Briant. Chronis Tzedakis and Charles Turner inhabit the office immediately off this room. In addition, there is an operational wet sediment and soil analysis laboratory, a room with the Malvern particle sizer, and a further, much larger, pollen prep. room in addition to the one in the main Geography Department. The 'turret' position up the stairs is occupied by Phil Gibbard's office and an area housing Chris Glaister and Alex Chepstow-Lusty.

This move has been a great improvement, bringing the research group all together in one area, and vastly increasing the space available to them. In addition, this movement of facilities and people has created space in the Physical Geography Labs in the main Geography Department. This area, which was the home of Steve Boreham and the QPG Ph.D. students, will provide a base for the Quaternary Science M.Phil students. Will Gosling, lab technician and former M.Phil. student also lives here.

Alongside this move, the last vestiges of the Subdepartment have been gradually transferred over from Plant Sciences. This has occasioned various members of the group undertaking new training as removal people, and also the taking of various comedy photographs!

Apart from Alex Chepstow-Lusty, the group now has possession of all the pollen preparation equipment which will be equipping the new prep room in the William Hardy Building, and various useful reference sources detailed below, which were previously held in Plant Sciences (CAMQUA issue four).

- comprehensive *pollen* reference collection
- comprehensive *plant macrofossil* reference collection
- A large collection of reprints amassed by Professors Godwin and West
- 'Quaternary museum' of representative Quaternary sediments including some from famous sites such as Hoxne.

Will Gosling and Becky Briant

The members of the QPG would like to invite everyone to tea and cakes and a chance to see around on FRIDAY 3RD DECEMBER at 3.30-5.00 p.m.in the Ground Floor Seminar Room of the WHB.
See you all there!

Diary

Quaternary Discussion Group

Michaelmas Term

Friday 29th October Dr. Bernie Weninger, Radiocarbon Laboratory, Cologne
Extending the Radiocarbon Calibration Curve into the Glacial Period

Friday 19th November Dr. Jenny McElwai, Dept. of Animal and Plant Sciences, Sheffield
Atmospheric CO2 and Temperature interactions during the Younger Dryas: A Tale of Two Ponds

Friday 3rd December Dr. Ben Horton, Department of Geography, Durham
Environmental Modelling and Palaeoenvironmental Reconstructions in Holocene Sea-level studies

Meetings are held at 8.30pm at West Court, 11 Herschel Road, Cambridge, and further information may be obtained from Dr John Stewart (jrs49@cus.cam.ac.uk), McDonald Institute (x39353)

Special Lecture

Thursday 21st October Professor J.J. Donner
Department of Geology and Palaeontology, University of Helsinki

On the Quaternary of the Western Desert of Egypt

4.30 p.m. Seminar Room 101, first floor of the William Hardy Building, Downing Site

London Quaternary Lectures

Wednesday 24th November
Dr Jorgen-Peder Steffensen
Department of Geography, University of Copenhagen
Member of GRIP and Antarctic ice-core teams

FILM: 'Ice-core studies as a source of palaeoclimate information with special focus on the last glacial cycle' LECTURE: 'In search of an interhemispheric connection during the termination of the Pleistocene'

Talks start at 3.30pm in the Main Lecture Theatre, Queen's Building, Royal Holloway, University of London. A minibus will be going from the Geography Department. Contact Becky Briant (rms1005@hermes), Geography (x66575) to reserve your place!

Coventry Quaternary Discussion Group

Wednesday 3rd November Dr E Anderson
Holocene evolution of fluvial terraces and alluvial fans in the Macgillycuddys Reeks, SW Ireland

Wednesday 10th November Dr C Turner
The early Middle Pleistocene in Russia

Wednesday 17th November Prof. D.H. Keen
The Ipswichian Interglacial – some problems of definition and duration

Wednesday 8th December Dr J.P. Grattan
An imperial legacy! The impact of ancient mining and smelting in southern Jordan

All meetings will take place at 1 p.m. in the William Morris Building, Coventry University, and further information may be obtained from Dr Michael Field (tel: 024 7688 8428, e-mail: apx126@cov.ac.uk).

Tuesday 12 October
Dr Gideon Henderson, Earth Sciences, Oxford
Absolute dating of climate change and sea level in the Pleistocene

Tuesday 2 November
Dr Eric Wolff, British Antarctic Survey
Ice core records of the late Quaternary

Tuesday 23 November
Dr Sandy Tudhope, University of Edinburgh
Long-term variability in the El Niño Southern Oscillation: evidence from living and fossil annually-banded massive corals in Papua New Guinea
All at 5 p.m., Harker Room, Earth Sciences

Thursday 4th November
Professor Brian Huntley, University of Durham
Species migrations and climate change: lessons from the past and modelling for the future
4.15pm, Seminar Room, Department of Geography.

Thursday 18th November
Aidan O'Sullivan, Discovery Programme, Ireland
Hunter-gatherers, farmers and fishermen in a coastal landscape - an intertidal archaeological survey of the Shannon estuary

Thursday 25th November
Dr Martin Bell, Reading University
Environmental change and opportunistic human activity in the Severn Estuary
Both at 5 p.m., room 612, Institute of Archaeology, UCL

Conference Reports

Cambridge Quaternary Goes South

In early August, a dozen members of the Cambridge Quaternary community made the long journey to join 900 other Quaternary scientists from around the world as they gathered in Durban, South Africa, for the 15th INQUA congress. This was the first time INQUA has held its 4-yearly congress in Africa. It seemed fitting that it should be there because of the profound significance of the work carried out by INQUA members to this continent. The theme for the conference was "The environmental background to hominid evolution in Africa". Thousands of hominid fossil finds reveal that lower and middle Pleistocene Africa hosted many innovations in human biological and cultural evolution which may have been influenced by the dramatic environmental and climatic changes that were taking place across the world during this period. But climatic change is not only significant to the fossil inhabitants of Africa. Studies of past climatic change are also of more immediate interest as they inform us about changes which could happen in the future. These are of particular concern across large regions of Africa where growing populations and economic problems make the people particularly vulnerable to climatic change.

The conference opened with an upbeat set of songs and Lances to welcome the delegates to South Africa. The song went "INQUA we welcome you... ". They must have been relieved that our association has such a short title! Steve Porter, the outgoing president of INQUA, gave the first talk in which he reviewed the progress of research into the nature and mechanisms of climate change since he began in the l950s. He gave a list of the 40 or so papers which he felt had contributed the most to the progress of Quaternary research, in the context of the last fourteen INQUA meetings. In 1974, the Quaternary scientist Richard Forster Flint predicted that by the year 2000 we would be able to explain climatic variability and the mechanisms behind it. Now rapidly approaching that year, it appears that the challenges are as big as ever and that it will be several more decades before we even begin to approach such an understanding. We have revealed far more of the complexity of past climatic change than was known, but the more we know, the more complexity is revealed, the more problems there are to be solved!

During the first two days of plenary lectures, invited speakers presented reviews which provided the background to the conference theme, linking together issues of global climatic change with environmental change in Africa and mechanisms and patterns of hominid evolution. Many speakers were concerned with the correlation of different types of climate records from around the world as this is fundamental to piecing together a global view of the climate system, and most importantly here, seeing how African climate fits into the picture. Listening to these talks it became clear that assessing whether the Northern and Southern hemispheres are in or out of phase is something of an intractable problem. The talks I found most inspiring were those which tackled this problem of correlation in an honest and elegant way. For example, Pieter Grootes' work in which he correlates ice core records from Greenland and Antarctica on the basis of methane, revealed that some Antarctic cores appear to be in phase but others appear to be out of phase with the GISP2 record. Acceptance of these kinds of discrepancies and research into the mechanisms behind them will fuel big steps forward into understanding global climate.

Even more exciting were the pieces of work in which a real effort was made to fit together not only relatively easy–to-correlate. continuous marine and lake records, but also the much more discontinuous archaeological evidence for hominid evolution. For example, Peter deMenocal presented work on the sediments of the East African Rift Valley which have yielded abundant fossil hominid remains and archaeological artefacts including many of the most important evidence for patterns in evolution. These sediments are interlayered with multiple tephras which have allowed precise dating of the fossil contents. Using the characteristic geochemical fingerprint of these tephras, equivalent tephras have been identified in offshore sediment cores. Eleven tephra layers have so far been correlated, allowing placement of the fossil hominids in a global palaeoclimatic and stratigraphic context. Work like this is important because archaeologists and geologists so often work totally independently of each other, even though they can be concerned with many of the same issues.

We can say for sure that global climate fluctuations were occurring at a time of rapid evolution in the hominid line but inferring a causal link and the nature of that link is more difficult. The introductory days of the conference were closed by Elizabeth Vrba who presented a strong case for evolution being driven by climate as she observes evolutionary pulses at times of major sea level regression, i.e. times of major climatic change. First we have to establish the timing, then perhaps we can begin to infer cause and effect, but will there ever be enough of a record of our ancestors to allow us to draw such conclusions? The issue was studiously avoided by the other speakers!

An enormous number and diversity of symposia followed the first two days of plenary lectures. Five or six themed symposia ran in parallel in the mornings of each subsequent day of the conference! Themes included: Out of Africa theories. climate modelling, long environmental records, glacier deforming bed processes, economic deposits. the Eemian, rivers, soils, ice-marine-terrestrial-record integra-

Conference Reports

tion, hominization processes, glaciers, human influences on the environment and on sedimentation, the carbon cycle, modern pollen deposition, tectonics... Morning talks and discussions were followed by related poster sessions in the afternoons. The addition of poster sessions to the format of the INQUA congress allowed many more people to present work than would have been possible otherwise.... an opportunity taken up by hundreds of students and professors alike!

Halfway through the conference, we had the day off and scattered across the region to see all sorts of interesting and exciting things. Many went to nearby game reserves to see elephants, zebras, antelope and more. Others went on tours of the local archaeology and geology. This was a welcome break - to get out of what was becoming a rather oppressive city.

Throughout the conference, reports of muggings of conference delegates put us on our guard as we walked about "in groups of ten or more" as advised by the police captain on the first day. Whilst queuing for various evening events, our armed guards were a reminder that this is truly a troubled country.

The conference laid on two evenings of entertainment but neither of these were high points of the conference. At the cocktail party in the City Hall, hosted by the deputy mayor of Durban, the food ran out before the people at the end of the queue got in (and we were hungry!). Then on the night before the last day, there was the Gala Dinner. Expectations were high as we had paid six times more for this meal than we had done for any meal so far in Durban. On seeing the food, we decided that all that money must have been spent on the Baroque trio, which serenaded us between courses, the venue, and the flowers given to the conference organisers, because it was far, far more awful than any college canteen would dare to offer! (Okay Phil, you were right).

It was encouraging to see so many current and ex Cambridge Quaternary people making significant contributions to the conference itself and to the wider work of the INQUA commissions. Marie-France Loutre, who worked in the Godwin lab last year, was elected president of the Palaeoclimate Commission, Chronis Tzedakis was elected onto the Subcommission for European Quaternary Stratigraphy, Liping Zhou was elected secretary of the Loess Commission, Phil Gibbard was elected secretary of the Stratigraphy Commission, and Nick Shackleton was elected president of INQUA, replacing Steve Porter. These, and the rest of the motley crew from Cambridge attending the conference, all presented work in the form of posters or talks.

Katy Roucoux

Jobs/Studentships

1) Harvard Forest, an internationally recognized center for basic research in forest ecology. For more information, visit their website at www.lternet.edu/hfr.
Research Assistant / Lab coordinator and Research Assistant to coordinate and assist with field and lab work for two existing projects investigating forest history in New England. Further information is with the editor or position descriptions may be found at Requisitions #2405 and #2404 at www.jobs.harvard.edu.

2) The University of Iowa:

The Department of Geoscience at the University of Iowa invites applications for a full-time tenure-track Assistant Professorship in vertebrate paleontology, preferably one specializing in the Late Cenozoic; and a tenure-track Assistant Professor in Quaternary geology and soils. Applicants should have a Ph.D. in hand by August 16, 2000.
Further details including application information are with the editor.

3) Ph.D. Studentship: Palaeoceanographic modelling of the Baltic Sea basin during the Last Interglacial

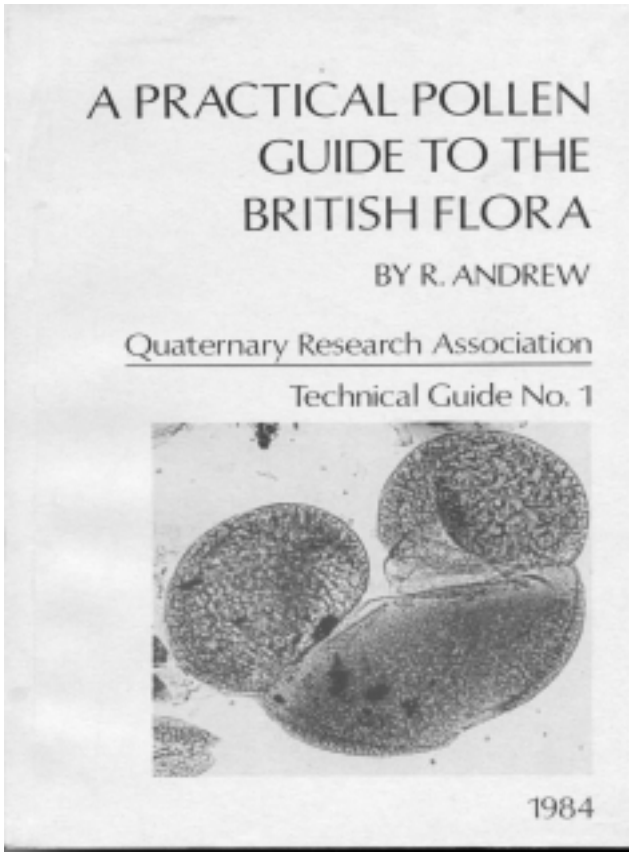
Applications are invited from suitably qualified candidates for this research studentship which forms part of a larger EU Environment funded project investigating the palaeoenvironmental and palaeoclimatic evolution of the Baltic Sea basin during the Last Interglacial. The research will involve the application of existing computer models to reconstruct ocean circulation within the Baltic under varying palaeogeographic and palaeoclimatic scenarios. Applications or further enquiries to Dr James Scourse, School of Ocean Sciences, University of Wales (Bangor), Menai Bridge, Anglesey, LL59 5EY. Tel: 01248 382876. E-mail: j.scourse@bangor.ac.uk. Closing date: 1st November 1999.

In the interest of compiling a GIQR address list please could everyone send their names, locations, phone numbers and email addresses to the editor.

Also - what do you think about setting up a GIQR email list? Any volunteers to administer it?

In Memoriam

Members of the Quaternary community in Cambridge who knew Robin Andrew will be very sorry to hear that she died on 21st September 1999 at the age of 90. Miss Andrew came to the Subdepartment in 1948 to work as a part-time assistant with Dr (later Professor Sir) Harry Godwin, in the Botany School, now the Department of Plant Sciences, and worked there until the close of the Subdepartment in December 1994, although she had retired many years earlier. She counted the pollen from almost all of Sir Harry's sites, and was almost single-handedly responsible for the curation of the pollen type collection. As a consequence of this work, she produced a key to pollen identification, using particularly graphic and memorable terminology. This pollen key was eventually published at the prompting of members of the Subdepartment as the first QRA technical guide. She also trained four generations of Quaternary palynologists in Cambridge and was consulted by many more from other institutes around the world. An obituary, with an appreciation of her contribution to Quaternary research, written by Professor Richard West will appear in the February issue of Quaternary Newsletter.



Erratics...

Stage Three Project

On the 5th through to the 7th of July the Stage Three Project had its end of phase three workshop. The meeting was well attended with a bigger and broader turn-out than previously (both archaeologists and palaeoanthropologists were present). Model output, including both climate and vegetation predictions, are now available for comparison with the databases being put together by the various panels. Interesting discussions took place including that on the discrepancy between the vegetation model, the pollen and mammalian data. The meeting was a great success and all is in place for phase four of the project.

Movements

CAMQUA has a new editor, after Mick's hard work over several years, for which I'm sure we all thank him. Becky Briant is doing a Ph.D. with Phil Gibbard in the Quaternary Palaeoenvironments Group and is looking forward to all the offers of help pouring in…….

We say goodbye to our first brave pioneers of the Quaternary Science M.Phil. course: Sa'ad Al-Omari, Claire Allen, Nik Brookes, Will Gosling and David Nowell. Sa'ad hopes to find some funding to come back and join us all, Claire has gone off to study Antarctic diatoms in Cardiff, Nik is now working for the Midlands Electricity Board, Will has just taken on the job of being Steve Boreham's sidekick in geography whilst looking for a Ph.D., and David is planning to make a career in politics. We wish them all the best!

In their place we welcome seven new recruits: Emma Adams (Magdalene), Robert Austin-Smith (St Edmunds), Peter Cawston (Downing), William Fletcher (Trinity), Phil Hughes (Darwin), Vasiliki Margari (Darwin), and Luke Skinner (Clare Hall). We continue in our international tradition this year with students from both Greece and Canada.

Long-standing friend and associate of the GIQR, Professor J.J. Donner is in Cambridge for one month from the 2nd October to consult various libraries and to discuss with members of the Institute.

Meetings

'Cool Peterborough' – the past's so bright, you gotta wear shades...

For those of you who have yet to go to Peterborough for the 'Cool Peterborough: Peterborough in the Ice Ages' exhibition at Peterborough Museum, here's a reminder that it is still on until the 27th of November, and is well worth a visit. The mammalian finds are significant, including the interglacial *Palaeoloxon* from Deeping St James; and the life-size figures of the mammals give a very good impression of what an environment containing such animals might have been like. It provides a 'shining' example of what can be achieved through the combined efforts of professional and amateur geologists.

In addition, a booklet has been produced to accompany the exhibition and relates, in more detail than the exhibition, the late Pleistocene history of the Peterborough area (mainly the past 130,000 years). New information from the late Devensian glacial site at Eyebury and the Ipswichian interglacial site at Deeping St James has been included and proceeds from the sale of the booklet will go towards making casts of the exhibits so that they can be on permanent display. A copy can be obtained from: Langford Editorial Services, 16 Magnolia Avenue, Longthorpe, PETERBOROUGH PE3 9QT, by sending a cheque for £3.00 made payable to H. E. Langford. The price of the booklet is £2.50 plus £0.50 postage and packing.

International Symposium on Multifaceted Aspects of Tree Ring Analysis

November 15-19, 1999
Lucknow, India

Contact:Dr. Amalava Bhattacharyya, Birbal Sahni Institute of Palaeobotany, 53 University Road, Lucknow 226 007, India. Tel/Fax: 91-0522-381 948,
E-mail: bsip@bsip.sirnetd.ernet.in

American Geophysical Union 1999 Fall Meeting

December 13-17, 1999
San Francisco, California

Information on the internet:
http://www.agu.org/meetings/fm99top.html

Geomorphology in the Public Eye; Education, Policy Issues, and the Public

November 12-14, 1999
Binghamton, NY
(30th Binghamton geomorphology symposium)

Details and registration information are available at http://www.geol.binghamton.edu./~rayburn/registration.htm.

QRA Annual Discussion Meeting - Millenial Scale Changes

6th-7th January, 2000
Department of Geography, University of Southampton

Millenial scale changes will be addressed in the ocean record, the biosphere, and the cryo- and litho-spheres. It is hoped that 'you will make this meeting part of your Millenium celebrations'! Further details are in the June QRA circular or may be obtained from Dr Jane Hart (jhart@soton.ac.uk) or Dr Keith Barber (Keith.Barber@soton.ac.uk).

Interesting websites

A 'virtual tour' of the geology of Nova Scotia complete with maps, photos, section drawings, and stylish chopper!
http://www.gov.ns.ca/natr/meb/field/start.htm

The PAGES (Past Global Changes) website is at: http//www.pages.unibe.ch and is packed full of information and plenty of amusing acronyms…

Deadlines

Copy for the next issue of ***Camqua*** should be submitted by **Friday, 7th January, 1999** to the editor at the Geography Department.

Credits

Editor: Becky Briant (rms1005@hermes)

Camqua would like to thank the Department of Geography for generously supporting the production of this issue.