

CBRL- 2001

Newsletter of the Council for British Research in the Levant

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CBRL Mission Statement

The CBRL promotes the study of the arts and social sciences (archaeology, economics, geography, historical studies, legal studies, languages and literature, linguistics, music, philosophy, politics, social anthropology, sociology and theology/religious studies) as relevant to the countries of the Levant (Cyprus, Israel, Jordan, Lebanon, Palestinian Territories and Syria).

The main CBRL facilities overseas are located in Amman. The Institute has a working library, a hostel, a computer-room, workroom and photographic darkroom, store and a range of equipment which can be hired by field projects. The Institute also houses comparative bone and seed collections, and ceramic type series from excavations it has sponsored.

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Membership rates

Institutions — £35
Membership for individuals with subscription to *Levant* — £26
Students and PEF members, with subscription to *Levant* — £13

The CBRL publishes an annual Journal *Levant* and a newsletter. Members receive invitations to all CBRL functions in the UK and are entitled to use the research facilities in Amman and Jerusalem. For further information regarding membership please contact the UK Secretary. Contact addresses on page 32.

Staff

Amman Staff

Director — Dr Bill Finlayson
Assistant Director — Dr Alex Wasse
Administrator — Nadja Qaisi
Librarian — Charlotte Schriwer
Computer Officer/Research Assistant — Samantha Dennis

Jerusalem Staff

Administrative Director — Naomi Nobel

UK Staff

UK Secretary — Christine Holder

From the Chairman

I am pleased to report another busy and productive year. Our particular achievement has been to mount three highly successful international conferences. In March Jo Clarke developed, structured and ran in Jerusalem a conference on the Transmission and Assimilation of Culture in the Near East. This was an important occasion on two counts. TAC was the first major international event held by the fledgling CBRL in Jerusalem. And TAC not only embraced transnational themes and disparate disciplines, it also brought together scholars from inside and outside the region notwithstanding the sensitive political backdrop. That illustrates eloquently the special strength of the CBRL as a regional body.

In April Bill Finlayson and Alex Wasse mounted another international and interdisciplinary conference, this time to review past achievements and to chart the way forward for our Jordanian flagship research project at Wadi Faynan. This successful event will bring a new focus to the CBRL's work in Jordan.

Our third conference venture was the CBRL's patronage in partnership with the Government of Jordan of the 18th International Conference of Roman Frontier Studies held in Jordan in September. Three hundred delegates came for the first ever substantial meeting of this august body to be held in an Arab country.

Our association with and facilitation of such a prestigious conference helps enhance the wider standing and reputation of the CBRL. In these endeavours we have enjoyed the full support of the British Academy and I am happy to report that at this year's BASIS Forum our Assessor confirmed that the CBRL was perceived of as doing an excellent job of work.

Our second main area of activity has been to establish a long term solution to the problem of British research activity in Jerusalem. The arrangement set up in the wake of the Wilson

Report consisted of a CBRL Officer in one building and a separate Standing Committee running the other building under the British School of Archaeology in Jerusalem name, even though the BSAJ was by then formally defunct. All concerned recognised that this was not working and was a source of confusion. What we have now agreed with the British Academy and BASIS is that the CBRL will move formally into the old School building and operate there under our own name. The Standing Committee, who did such sterling work to keep the old building and its facilities in existence, will now be dissolved. As happened two years ago with the disappearance of BIAAH, the title of BSAJ will be given up so that we shall henceforth operate throughout the Levant exclusively under the name of the CBRL. I believe that these arrangements at last give us the opportunity to develop a new and exciting programme of Jerusalem-based research and research support whilst drawing on the heritage bequeathed us by the BSAJ.

During the year we said goodbye to Caroline Middleton and to Lesley Lund. Both worked tirelessly for BIAAH, for BSAJ and subsequently for CBRL. We are all much in their debt and we wish them well in their new life. We have now combined these two posts into a single full time one and the new post of CBRL Secretary has been most capably filled by Christine Holder who is working alongside Mark Whittow at St Peter's College. We also welcome John Pascoe who has joined us as Honorary Treasurer in succession to Rod Chalmers. I should also like to express my gratitude and appreciation to our Patron in Jordan, HRH Prince Hassan, and to HRH Princess Sumaya for their continuing enthusiasm and support for our endeavours. It is to all these people, to the Standing Committee under Hugh Williamson, to the CBRL Officers and above all to our field staff, Bill Finlayson, Jo Clarke and Alex Wasse, that credit is due for all that the CBRL has achieved this year.

Adrian Sindall



Adrian Sindall and his wife Jill greet HRH Prince Hassan at the Limes conference



Conservator Noel Siver at work on pottery restoration in the former British School of Archaeology in Jerusalem, now the CBRL's Jerusalem building

From the Director

Copy for this newsletter had to be given to the editor almost exactly one year after I took up my post. The year seems to have gone past very fast — in fact I'm still in the process of settling into the flat — but at the same time so much has happened that it is hard to believe it has only been a year. Alison was such a familiar figure in Amman after her years conducting research, as Assistant Director, as Director, and then once again back to research, that I am still being introduced as the New Director.

One of the major themes of the year has been the conferences and workshops that we have organised, or helped to organise, the Transmission and Assimilation of Culture (TAC) Conference, the Faynan Conference, the Syrian Computer Workshop, and the Roman Frontiers Congress. All four have been received as successes, but of course all of these were the product of much advance preparation and behind the scenes activity. Dr Jo Clarke is editing the publication of the TAC proceedings, I am dealing with the Faynan proceedings, and Dr Phil Freeman has the unenviable task of editing the Roman Frontiers proceedings.

For me travel has also been part of the story, both locally in Jordan and throughout the area we cover. I hadn't realised that it

was possible to leave Amman for a meeting in Damascus in the morning and be back in time for another in Amman in the evening. One of the privileges of the job is being able to spend a little longer in the region than the usual frenetic field seasons allow, watching the landscape change over the seasons. While much travel may be too rapid to do this, I have found some time to begin to know the area more intimately. Thanks to trips to the UK for meetings, Lisbon for the 6th Annual Meeting of the European Association of Archaeologists, visits to Cyprus, and collecting delegates for the Roman Frontiers conference, I have come to know Queen Alia airport rather better than I had hoped.



The delegates of the Wadi Faynan conference gather round the Pre-pottery Neolithic B site of Ghwair 1

We have had a complete change of all non-local staff in Amman. Alex Wasse, now Dr Wasse following the successful completion of his PhD while new in his post, arrived about the same time as I did. Stuart Cakebread the Computing Officer and Catherine Brown the Librarian both left during the first half of 2000. Samantha Dennis, a previous member of Wadi Faynan teams, has replaced Stuart, and her job includes other Research Assistant duties as well as the computers. Charlotte Schriwer, who finds herself the only non-prehistorian amongst the staff, has replaced Catherine. Both part-time staff are also actively conducting research in their remaining hours, Charlotte on Ottoman architecture and hospitals, Samantha on the presentation and conservation of early prehistoric sites. We hope that their presence will add to the academic life of the Amman centre as they work towards publications and potentially entry into postgraduate study back in Britain. In fact this hope is already being

fulfilled, with a new series of lunchtime discussion groups being one of the more formal products. Dr Jo Clarke has continued in Jerusalem, while in Amman we are all very pleased that Miss Nadja Qaisi is here to offer an element of continuity

While the job obviously involves much administrative work I am pleased to say that simply being here helps to focus the mind on research. Although we are all kept busy with the daily chores, we are all finding our stay here to be a productive one in terms of research.

Bill Finlayson



Roman Frontiers conference: Liz Slater and David Breeze wait for the show to begin

News from Jordan

The new Director-General of the Department of Antiquities, Dr Fawwaz al-Khraysheh, took up his post only a short time before Bill Finlayson took over in CBRL. He has been making his mark on the Department, and archaeologists working in Jordan will notice this more and more as time goes by. One aspect that has already been made clear is that he is trying to reduce the number of projects in Jordan, not just those from overseas missions, but also Jordanian projects. One important reason for this is to allow his Department to cope with the vast quantity of material recovered, and provide good quality archaeological representatives to each project. This is tied to a policy of trying to direct projects to work on priority sites, whether these are threatened or represent important focuses for the Department's own research agenda.

An additional change is the determination that the old 10% of the in-field budget charge should not be seen as absolving projects from responsibility to their sites. Project Directors will now have to provide details of what they propose to do with a site after completion, and have a separate budget to carry out any conservation works agreed. These are policies that CBRL members will be familiar with from the governmental agencies within the UK. Having seen the mess that some foreign missions have left behind them, and understanding the conservation and practical principles that lie behind the changes, I am sure that members will all support Dr al-Khraysheh, even if it does mean a little more funding and a little more work!

As ever, we are extremely grateful for the support of both Prince Hassan and Princess Sumaya. Details of some of their specific involvement can be found elsewhere in this newsletter.

Although the Amman office is our headquarters we do take our regional responsibilities very seriously! Even if you are not working in Jordan do get in touch with us: our remit includes providing assistance to help facilitate your research throughout the region, and we routinely visit all the countries concerned.

Wadi Faynan Conference

We were very pleased to hold a conference between the 15th and 20th of April on Wadi Faynan and research related to the South of Jordan and neighbouring areas. The patron of the conference, HRH Princess Sumaya, has had an active interest in the area and managed to attend not only lecture sessions in Amman at the Royal Cultural Centre, but also field visits and the grand conference *mensaf* in Faynan. The conference was held in association with the Royal Society for the Conservation of Nature, with whom CBRL and formerly BIAAH have long cooperated in Wadi Faynan.

All the CBRL Wadi Faynan projects were represented at the conference — indeed we coincided with the end of Professor Graeme Barker's last field season, leading to a rapid changeover as delegates headed for the Dana Camp as field workers evacuated it. Many other delegates attended for sessions on Early Prehistory, Later Prehistory and Exchange, Metallurgy, Landscapes and Environment, Cultural Resource Management, and Archaeology and Contemporary Society. Perhaps the parts most enjoyed by the delegates were the

field trips, when the entire conference stayed in the Dana Camp and various lectures and informal presentations were given. The field trips themselves were a remarkable chance for everyone to go to the many sites being worked on in Wadi Faynan and Fidan, and have the surveyors, excavators, and environmental scientists involved in each project explain their own part of the story. This included virtuoso performances by Dr Mohammad Najjar, who has been involved in many of the projects in the area, and Professor Andreas Hauptmann, who talked about the mining — having already presented many papers in Amman.

The conference was not all work! We visited an exhibition on the Wadi Faynan Goat Leather Project, one of RSCN's innovative ways of providing new employment opportunities for local women. The British Ambassador, Mr Christopher Battiscombe, kindly invited the delegates to a reception at his residence. The local Bedouin families prepared a splendid *mensaf* for the delegates on their last night in Faynan. All in all the conference was a splendid academic event and a wonderful showcase for the work that has been going on.

18th International Congress of Roman Frontier Studies, Amman. 1-12 September 2000

The Congress of Roman Frontier Studies was founded in 1949 and is thus one of the oldest international archaeological conferences. The main theme of each Congress is recent work and thought on all frontiers of the Roman empire from the late Republic to the 6th century AD. Lectures encompass work on individual sites, the Roman army, and significant themes such as the development of frontiers, the effect of frontiers on indigenous populations and comparative frontier studies,

Since 1949 sixteen meetings have been held. The 18th, and the first in an Arab country, was held in Jordan from 2 to 12 September 2000. It was attended by over 250 scholars from 25 countries, and 150 lectures were delivered. The Congress was hosted by the CBRL, with additional financial support being provided by the British Academy and the University of Liverpool. The Department of Antiquities also sponsored the Congress and provided invaluable support both before and during the meeting, in particular in relation to the tours,

The Congress was opened on 2 September by HRH Prince Hassan bin Talal, Patron of the Congress. His Royal Highness was accompanied by Mr Akel Biltaji, the Minister of Tourism, whose video presentation gave a foretaste of the delights to come during the tours,

These tours were undoubtedly the highlight of the Congress.

Three main trips allowed inspection of Azrak and other Roman defences in northern Jordan, the amazingly well-preserved Qasr Bshir and other forts in the central part of the country, with a two-day journey south. Jordan boasts some of the best surviving forts anywhere in the Roman empire, and participants were duly impressed by the spectacular remains. The range of surviving military remains is also impressive from watch-towers through auxiliary forts to extensive legionary fortresses, including the internationally



Roman Frontiers conference: A day off for delegates, and George Findlater explains propeller functions

famous site of Lejjun. These forts protected the people of the province of Arabia and their homes. This was acknowledged by visits to Petra, Jerash and the Roman buildings surviving in Amman itself. An excellent new guide book to Roman Jordan was prepared especially for the Congress by Professor David Kennedy. The Congress Proceedings will be published by the CBRL.

The participants also witnessed Jordan's excellent hospitality at first hand, while participation by American, French, German and Spanish archaeologists working in Jordan underlined the harmonious relations pertaining in the country. On 12 September, delegates departed from Jordan, most impressed by the country's Roman heritage and with not a few vowing to return.

David J Breeze, Chairman 2000 Congress

New Staff'. Samantha J. Dennis

My background is in both art and design, as well as archaeology. I studied Graphic Communications in Birmingham before moving on to do an undergraduate degree in Archaeology at the University of Reading. This puts me in the right frame of mind to deal with the two main aspects of my job here in Amman: Computer Officer and Research Assistant. As Computer Officer I offer assistance to visiting research teams with the various aspects of the computer resources here at the CBRL, including dealing with images, databases, scanning, plotting, and using various types of software. I have also taken over the task of updating the CBRL website, so please let me know of any links to relevant research! As Research Assistant I work with Bill on the various aspects of CBRL research.

My own research is based in prehistory. I am exploring the *Presentation and Conservation of Early Prehistoric Sites in the Levant*. Prehistoric sites in the Levant, especially early Neolithic sites in Jordan, are pivotal to the emergence of agriculture and culture. Once excavated, unfortunately, these amazing sites are largely ignored, despite the rich resources they offer to tourism, education and research. I hope to raise the profile of these non-monumental structures in the eyes of the local communities and the general public by exploring the many ways of interpreting, presenting, conserving and reconstructing early Neolithic settlements.

New Staff: Charlotte Schriwer

I was previously employed at the Chester Beatty Library, Dublin, where I worked as a Research Assistant to the Curator of the Islamic Collections. I completed my MA (Honours) in Arabic Studies at St. Andrews University, and continued my studies at the School of Oriental and African Studies in London with a dissertation on the development of al-Fustat, the first Muslim settlement in the modern-day city of Cairo,

As CBRL librarian, my work involves looking after the Institute library each morning. This includes accessioning new books and journals, updating the database and card catalogues, as well as chasing up overdue loans and preparing the library to become reference-only as of January 1st, 2001.

The afternoons are usually spent conducting research. Currently I'm researching Ottoman architecture in Cyprus, which in the southern half of the island is mostly neglected.

I'm hoping to document as many buildings as possible, especially those that are in danger of being demolished in the very near future. In addition, I hope to explore the ethnic elements within the Ottoman buildings I will be documenting, their relationships to the people and their surroundings, and their connection to the Imperial Ottoman architecture in major Turkish cities such as Istanbul and Bursa.

Storage at CBRL Amman

Members who have left personal items or project material in Amman, whether finds or belongings, must remember that storage space is at a premium and we cannot keep things indefinitely. There is now an annual charge for storage, and if this is not met then with regret we will have to make suitable arrangements for the disposal of the items. Please get in touch with Amman urgently if you have left things here and have not discussed it with us!

CBRL Vehicles

One of the main achievements of the year has been Dr Alex Wasse's campaign to improve the quality, and therefore reliability and safety, of the CBRL vehicle stock. It is not always possible to get the right parts, and mechanical expertise for the V8 landrovers is hard to find, but within these, and of

course budgetary constraints, we think that the vehicles are now running better than ever. A new Toyota baby Land Cruiser has been added to the pool, and this certainly makes long distance trips more comfortable.

One of the biggest headaches of looking after a pool of vehicles is of course you, the users, who don't treat them as if they were your own. This is a mistake, because of course as CBRL

members, in a sense they are yours. Don't think that this means that we can drop the cost of using them — we need every penny of this to keep them going and to replace stock — but remember that every pound spent on them reduces

our ability to fund the library, research grants and so on. If you can't remember that — remember that you will get the same vehicle back the next year, and if you trash it in the field you will be the ones to suffer most!

News from Israel and the Palestinian Territories



Examining material following flotation procedures of material from one of the projects. From left to right: Tom Powers, Shimon Gibson, Egon Lass (Flotation Expert), and Fadi Amirah (Surveyor)

Recently of course all news and action in Jerusalem has been dominated by the Al-Aqsa intifada. This renewal of fighting has all but closed off the West Bank, and Foreign Office advice is not to travel in the area. Ramallah, Jericho and Gaza are under Israeli military closure. Shelling has destroyed most Palestinian administrative offices so contact with Palestinian officials is difficult. Israelis will not travel into East Jerusalem and the Consulate and British Council have been advised against holding events where both Palestinians and Israelis are present. The CBRL Office has adopted this advice and the planned lecture and reception for the launch of Ottoman Jerusalem in December has been postponed.

This deeply unfortunate situation comes at a time when otherwise CBRL has had a very good year. We have finally come to a long term solution to the question of how to operate in Jerusalem, as explained by our Chairman on page 3. The old BSAJ building is being converted into a research centre more like the Amman office, and the Jerusalem Officer will return to the building in April 2001. We are all very pleased as this at last removes all the contradictions and tensions that arose out of the previous interim arrangements.

We also held a highly successful conference at the beginning of the year. The Transmission and Assimilation of Culture (TAC) conference was extremely well attended by scholars working within the region, both overseas and local, and the intensive diet of papers was matched by lively debate, both within the sessions and out of hours. The conference was also an opportunity for CBRL to benefit from its developing regional structure, and staff from Amman were able to help with aspects of conference organisation. The papers from the conference are currently being prepared for publication.

There was an increase in the amount of active research being conducted, especially in the field. The Jerusalem Officer's own field research in Gaza (conducted jointly with Louise Steel, now at Lampeter University) went ahead with a highly successful season. Other fieldwork highlights include the numerous projects being worked on by Shimon Gibson, who has been using the old school building as a base for post-excavation analysis. The Medieval and Ottoman survey project worked at Sebastiya this year, while Brian Boyd began preliminary work at Shuqba/Wadi en-Natuf. Our research now runs from the Middle Paleolithic right up to the present day.



Data entry clerk Adel Magrabe reviewing the new library database with Administrative Director Naomi Nobel

Post-excavation was not forgotten, with work on material stored in the outbuildings of the school building finally allowing the process of clearing these areas to move ahead with the transfer of material to the IAA. This is by no means complete, but a significant amount has been done. One of the issues facing the new running of the building as a research centre is to make sure that workspace is available and that material is no longer stored indefinitely. Archaeologists are terrible for their inability to throw things away, and Naomi has suggested that we run a little exhibition when the building is relaunched in April, showing some of the old equipment and photographs found stratified during this process.

Belmont Castle (Suba)

Denys Pringle visited Jerusalem in June 2000 to oversee the transfer of the published finds and various archival items from the Belmont Castle excavations (1986-9) to the Israel Antiquities Authority. A complete set of the excavation archive has also been deposited in the archives of the Palestine Exploration Fund, London.



CBRL Jerusalem Officer, Dr Joanne Clarke talking to Conservator Noel Siver at the conservation project

News from Syria

New CBRL House in Horns

Since 1996 the CBRL has maintained a small store room in Damascus. This has housed the former Tell Nebi Mend field equipment kindly donated to the CBRL by Peter Parr, and has provided limited storage space for British archaeological projects working in Syria. However, its location in the midst of the Yarmouk refugee camp has proved frustrating to all but the most navigationally adept and, more significantly, its size has not been sufficient to allow post-excavation work to be carried out on the premises. The latter factor is becoming increasingly significant as the DGAM has, quite reasonably, begun to apply existing legislation restricting the export of Syrian antiquities for study abroad.

We therefore decided to relocate the CBRL facility in Syria from Damascus to Horns, where much larger premises could be obtained for only a slight increase in rent. Horns was chosen as the location for the new facility not only because of its convenient location in central Syria, but also because two major long-term CBRL-funded projects are currently working in the Horns region: the Horns Citadel Project, directed by Dr Geoffrey King (SOAS), and the Horns Regional Survey, directed by Dr Graham Philip (University of Durham; see p 26 for report).

After much searching, suitable premises were eventually located in the delightful Bab Amr district of southern Horns. After protracted negotiations with landlord, lawyers and no less than three families, the CBRL was finally able to move in at the end of August. The Damascus store room was then closed and the former Tell Nebi Mend equipment transported (back!) to Horns, where it was quickly pressed into service by the Horns Regional Survey.

The CBRL facility in Horns comprises a large building containing three flats, all of which are occupied by the CBRL. The single ground floor flat has been equipped as a secure store room, similar in size to the former Damascus store. The two first floor flats between them provide spacious accommodation and work space for up to ten people. A large roof and small courtyard provide abundant outdoor space. Since the CBRL moved in, the House in Horns has been continuously occupied by a succession of British researchers, not just archaeologists but also geographers, historians and art historians. It is available for use by all CBRL members at extremely reasonable rates. For further details please contact the Assistant Director in Amman.



The CBRL's new house in Homs, Syria

News from Lebanon

During the past six months the CBRL has been working hard to raise its profile in Lebanon, so that we can facilitate British research in the country more effectively. The Director and Assistant Director made an official visit in October 2000, and introduced themselves and the work of the CBRL to the Director General of Antiquities, Mr Frederic Husseini.

We were considerably assisted during this visit by the British Embassy at Beirut. HE the Ambassador, Mr David MacLennan, kindly hosted a magnificent lunch in Achrafieh, at which the Director and Assistant Director were able to meet representatives from the Directorate General of Antiquities, the American University of Beirut and the British Council. The CBRL is also grateful to Mr Dominic Perring and Mr Reuben Thorpe who, as representatives of the long-running Anglo-Lebanese archaeological projects in Beirut Central District, have been extremely generous with both advice and hospitality during the course of our visits to Beirut.

The Assistant Director has subsequently been working to establish the Anti-Lebanon Archaeological Project, aimed at investigating the role of the Anti-Lebanon uplands in the late Pleistocene and early Holocene transition to sedentism, cultivation and herding in the Levant. It is hoped that the Anti-Lebanon Archaeological Project will contribute towards the revival of the long tradition of prehistoric research in Lebanon, which was cut short by the outbreak of civil war in 1975.

News from Cyprus

Cyprus American Archaeological Research Institute

The Cyprus American Archaeological Research Institute (CAARI) in Nicosia offers a range of services to scholars and students of Cypriot archaeology, history and culture that are unobtainable in the rest of the island. In addition to its hostel, where economical accommodation is available, the Institute has a well-stocked library covering the past not only of Cyprus but all the surrounding areas as well, a computer network, and other facilities for carrying out studies in the island. CAARI is open to *bond fide* research workers of all nationalities, and can give residents and members help and advice on local conditions and requirements.

Over the last decade there have been gradual shifts in the focus and nature of archaeological activity in Cyprus. Concentration on the Bronze and Iron Ages has been replaced by renewed interest in the Stone Age, particularly the Neolithic Period, and in the Byzantine, Medieval and Modern periods. This has been accompanied by a reduction in the number of excavations in favour of study seasons and publication programs, as well as survey projects. An international conference on 'Archaeological Field Survey in Cyprus: Past History, Future Potentials' was held in the University of Cyprus, Nicosia, on the 1st and 2nd of December 2000.

Up to date information on CAARI's services and events connected with the study of Cypriot antiquity can be found at the Institute's Website www.caari.org.

Robert Merrillees

Lemba Archaeological Project Celebrates 25th Anniversary

Some 60 well-wishers gathered at the Lemba Archaeological Research Centre on Saturday, 23 September 2000 to celebrate 25 years of LAP investigations into the prehistory of western Cyprus. They came from near and far: the villages of Lemba and Kissonerga; the Department of Antiquities and the University of Cyprus in Nicosia; and the CBRL offices in Amman and Jerusalem.

The Department of Antiquities was represented by its Director, Dr Sophocles Hadjisavvas. Amongst CBRL members present were the Director, Dr Bill Finlayson, who worked with the project as undergraduate and postgraduate, and the Jerusalem Officer, Dr Jo Clarke. Other institutions represented were the Cyprus American Archaeological Research Institute and the Kissonerga Development Board.

It was particularly gratifying to have the Project mentor, Ianni Cleanthous, 'King of Kyrenia' on hand. He and the Director, Professor Edgar Peltenburg, had worked together in the north, were separated as a result of the sad events of 1974, and then found themselves working together again when Ianni became mayor of Lemba.

The Project has established an indispensable outline of the prehistory of the island during the 4th-3rd millennia BC, and it has recently been to the fore in the discovery of some of the earliest successful inhabitants of the island (reported in *Levant* 33). Its Lemba Experimental Village is attracting ever-growing numbers of visitors and there are plans to open Kissonerga *Mosphilia*, the site of its major excavations, to the public. There are also hopes that rescue excavations at Mylouthkia, with its 10th-9th millennium BP wells and evidence for massive Chalcolithic enclosure ditches, will take place soon.

The occasion was a delightful opportunity to thank the innumerable people who had made possible such a sustained research effort. And this note provides an opportunity to thank the Assistant Manager of the Centre, Dr Diane Bolger, for ensuring that all preparations went smoothly, and that the surprise cake *was apiece de resistance*]

Edgar Peltenburg



Paul Croft cuts the Lemba Archaeological Project 25th anniversary cake

News from Britain

British Archaeological Awards 2000

HRH Prince Hassan presented the British Archaeological Awards before an invited audience of nearly 200 in the Great Hall of Edinburgh Castle on 16 November 2000. The Awards were established over 20 years ago to reward good practice in British archaeology, to acknowledge the help received from non-archaeologists and to raise the profile of archaeology. The 2000 Award ceremony certainly achieved all aims.

Prince Hassan was invited to make the presentations in his capacity as Patron of the CBRL. HRH was accompanied by Adrian Sindall, Chairman of the CBRL. His Royal Highness was met at Edinburgh airport by Mr Sam Galbraith, MP, MSP, and Minister for the Environment. Over lunch in the Castle Prince Hassan met his old friend Mr Tarn Dalyell, MP, as well as sponsors of the Awards.

Before presenting the Awards, Prince Hassan spoke movingly about the burden of history in the Middle East and in particular about the status of Jerusalem. After the ceremony, he was interviewed by *The Herald*, and visited the Scottish Crown Jewels and the Stone of Destiny, on which Kings of the Scots and monarchs of Great Britain have been inaugurated for hundreds of years. HRH remarked on the significance of stone for such ceremonies, drawing attention to the Black Stone at Mecca.

After presenting the Awards Prince Hassan said, 'I was impressed by the variety of the participants and the disciplines they brought with them. It was not just academic archaeology or field work, it was young people inspired and participating in related science projects and media projects. I am rather fascinated by the idea that we can bring our past to life in this very human manner.'

His Royal Highness made a great impression on winners and sponsors alike and won many friends for Jordan.

David J Breeze, Chairman, British Archaeological Awards

New CBRL UK Secretary: Christine Holder

As Secretary to the Council for British Research in the Levant, I look after all UK enquiries about the organisation, all membership applications, *Levant* subscriptions and back copies, lectures, grant applications, publicity, book-keeping, database management, salaries, pensions and the payment of taxes, as well as managing the storage of CBRL records.

Taking on this post has allowed me to unite two long standing activities that I have pursued over the last decade, namely archaeology and administrative work. At present, I am pursuing an MLitt in Archaeology at St Peter's College, Oxford, hopefully leading to a DPhil. I am also working as an Associate Lecturer for the Open University, for a course on Homer. Previous to this, I completed an MA in Eastern Mediterranean Archaeology at the Katholieke Universiteit Leuven, a B A in Anthropology at the University of Toronto, and a B A in History at the University of Guelph. I have also worked as a secretary in Oxford for the Criminology Centre, in Belgium for the American College of Louvain, and for many years in Canada at the Consumers Gas Company.

HRH Prince Hassan at the British Archaeological Awards

Ottoman Jerusalem: The Living City 1517-1917

Edited by Sylvia Auld and Robert Hillenbrand; Architectural Survey by Yusuf Natsheh. Published on behalf of the British School of Archaeology in Jerusalem by Altajir World of Islam Trust.

On the 22nd of November, Dr Auld and Professor Hillenbrand introduced their new book *Ottoman Jerusalem – The Living City 1517-1917* to members of the CBRL and Friends of the BSAJ at a reception in the Ground Floor Lecture Hall at SO AS. The previous day there had been a launch party arranged by the Director of Altajir World of Islam Trust, in the presence of HRH Princess Alexandra.

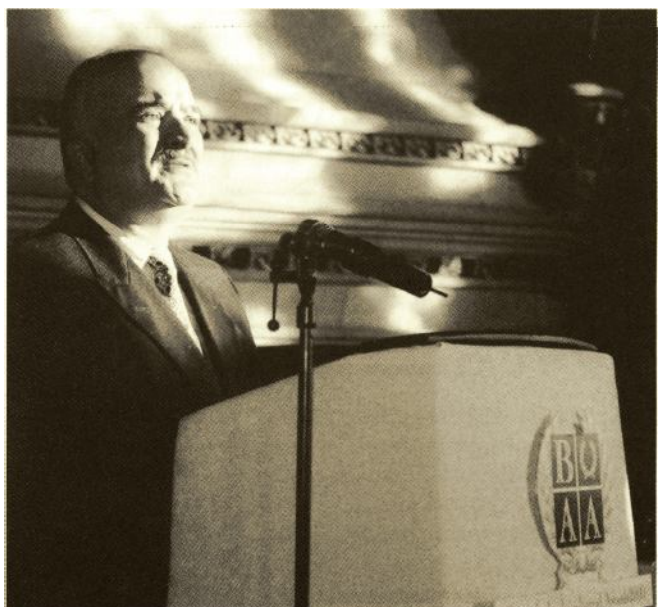
Professor Hillenbrand gave a fascinating lecture on Umayyad coins, and Dr Auld spoke briefly, first to thank everyone who had been involved in the Ottoman Jerusalem Project, and then on the role of Sulaiman the Magnificent's patronage in Jerusalem with a particular emphasis on Ottoman design.

The British Consul General, Robin Kealy, is planning a party to launch the book in East Jerusalem in the spring. Dr Auld has been invited to go to Jerusalem to represent the Trustees of Altajir Trust, who have generously donated copies of the book to leading members of the Palestinian community. While in Jerusalem she will give a lecture at the CBRL.

Ottoman Jerusalem

This detailed work presents a wide-ranging series of studies by international authors on the Ottoman city. The historical research is combined with an architectural survey of the monuments of the Old City by Dr Yusuf Natsheh, Director of the Department of Islamic Archaeology of the Auqaf. The book includes a detailed drawing analysing the East Wall of the Haram by Dr Michael Burgoyne, and an axonometric drawing of features of the city showing the development of the Ottoman sites by Hamish Auld.

Ottoman Jerusalem is a companion publication to Michael Burgoyne's *Mamluk Jerusalem*, which was funded by the World of Islam Festival Trust, the precursor to Altajir World of Islam Trust, who have so generously funded the research and publication of the new book. A further four centuries of the Holy City's Islamic heritage is now recorded for posterity.



'Finding Out': An Expedition in Southern Jordan

Anthropologist Carol Palmer investigates Bedouin routes by walking them herself

Some argue that the only way to find out is through first-hand experience. For sure, this is the way I have learnt and continue to learn about rural life in Jordan. It is also a guaranteed way to find yourself in 'interesting' situations, and there have been plenty of those along the way. One of the joys of working in Jordan is that I have always managed to find a way out of some of the most challenging 'interesting' situations, usually with the good grace of local people.

First Footsteps

My first introduction to the Wadi Faynan was just such an interesting situation. In March 1990, a group of us, including Alison McQuitty, former director of the Amman Institute, Kay Prag, current Editor of *Levant*, and Carrie Philip, in the comfort of our heated accommodation in Amman, decided to walk from Dana down the wadi to Wadi Faynan. This was in the days before the Dana Nature Reserve, before permits were required, and before the CBRL Wadi Faynan project existed.

The day we chose was, as it turned out, the day of an extremely heavy rainstorm. At the then unrestored Dana village, we sat in one of the shops deciding whether or not to continue. We received mixed advice from the locals, but they generally seemed to agree that the descent was 'possible'. So we decided to do our walk, and although we started out enthusiastically, my main memory is of a very wet, knee-aching, muddy and miserable descent. I don't recall very much about the scenery. It was largely blanked out by mist, although I do remember the colours of the sandstone rock, vivid pinks, purples and yellows, the hues exaggerated by the rain. The descent was certainly possible, but we also found out what it was to experience the conditions that cause flash flooding. These conditions do not occur often, and all too infrequently in the years since our walk. Several winters of low rainfall have left local people wondering what they might have done to drive away the rain.

A Changing World

In 1998 I started working at Wadi Faynan on Professor Graeme Barker's *Environment and Land Use Survey*. Wadi Faynan is still one of the more difficult places to get to in Jordan, but this is a situation that is changing rapidly. In the more than ten years that I have been working in the country, there have been huge changes, but one of the most striking is the growth of the road system. Tracks have become tarred roads and new bulldozed tracks allow four-wheel drive vehicles into more and more areas. My favourite 'secret' places have become picnic areas for day-trippers from Amman. Hunters find their way deeper into the forest and desert.

This expansion of the road system has definitely enriched my knowledge of the landscape, but my view has also been shaped by it. For example, the usual way to travel in a vehicle from the camp at Wadi Faynan to the village of Dana is to drive west, first along a track and then from Gregra

along a road to the Wadi Araba road. Once there, you drive north until you reach the turn-off to Tafila, which takes you on a recently tarred road up into the mountains and includes dramatic views back over the Wadi Araba and down to the Dead Sea. Once on the plateau, you go south along the King's Highway until you reach the turning that leads steeply down to Dana village. The whole journey normally takes around three hours. The first time I walked down the wadi was on a wet March day, but since then I have ascended by foot on a much more pleasant day, which has given me a totally different perspective.

The village of Dana has only been connected to the King's Highway for a little over 20 years. In that time, the larger part of the village's population has moved up the mountain to the new settlement of Qadisiya. From the mid 1990s, visitors and archaeologists travelling by vehicle from Amman to the Wadi Faynan are able to drive straight down the post-peace Dead Sea road, along the Wadi Araba, and make their way to the Faynan camp via the settlement of Gregra. Even up to 30 years ago, the Wadi Faynan was extremely remote and a hideout for fedayeen. By the late 1970s, however, after the turbulent civil-war years, and with the establishment of the village at Gregra, things had started to change.

In the 1980s, some of the Bedouin still moved up and down the wadi systems, between campsites, using camels for transportation. Now everyone uses a pick-up truck. Even the Bedouin landscape is shaped by the new system of roads and vehicle tracks. Campsites are chosen according to the ability to get to them by vehicle, and even the decision whether or not to move is conditioned by the possession or availability of a vehicle. For example, you do not need to move on to new grazing ground when you can bring fodder to the herd — and water too, for that matter. On the plateau, the *fallahin*, farmers like those from Dana, have moved their villages from positions beside springs lower down the slope up to and beside the tarmac ribbon, the King's Highway. A few *fallahin* still camp while grazing their animals in springtime, but place their tents, once again, alongside easy access roadways and trackways.



Donkey rides

The more I talked to people about the area and the past, and delved into old traveller's accounts, the more I wanted to find out about different routes up and down the mountains far removed from today's tarmac. It was these sources that precipitated my desire to 'find out' for myself, to experience what the past must have been like at first-hand.

A Walk Through Wadi Burwas

After introducing this idea to Abu Fawaz, the Institute guard at Wadi Faynan who has so often tried to persuade me to travel across the mountains to Petra ('three days travelling ... like Doctor Caroline'), the idea started to transform into a plan. Abu Fawaz and Jum'a 'Aly (Abu Ibrahim), a figure who will also be well known to anyone who has worked on an archaeological project in the Wadi Faynan, were to be our guides. Abu Fawaz organized the donkey to carry bags, tea, sugar and some water and food, and, of course, the all-important teapot.

There were long discussions about all the possible ways to go up the mountain and how difficult, or not, the path would be. The area is fortunate in having springs, so water would not be a problem. These discussions lasted until the day before our departure. On that day, we sat in the Sheikh's tent well into the evening, hours after the *mansaf*



Placing the dough in the fire

was consumed, finalising the route and, once this was decided, listening to the stories of the Pasha.

After a night sleeping under the stars, Alison McQuitty, Isabelle Ruben, and the Pasha's daughter, Buthayna, were driven to meet Abu Fawaz and Jum'a 'Aly, who had camped out at the start of the walk. Intriguingly, only women volunteered to undertake the guided trip, but, come to think of it, it was an all-women group who had walked down the Wadi Dana ten years before. This time we were unlikely to encounter rain, however, because it was May and the next rains would be several months away.

We were already late at our starting point; it was eight in the morning. Still, there was time to drink tea. At last, we set out to walk up the Wadi Burwas to Shamakh, one of the old villages in the Shawbak area. Skirting along the bottom of the mountains to arrive at our route into the mountains, we passed hiding places where the Bedouin from Jum'a 'Aly's group used to store their winter supplies of food. That was in the days before you could slip into Gregra for that necessary item or wait for truck-driving travelling salesmen to visit.

Then the ascent up a zigzag path (that was supposedly cleared by the Romans) only to go quickly down again into the Wadi Burwas. As we crunched along the dry riverbeds, we passed oleander bushes in bloom — only a poisonous plant could dare to have such showy, pink flowers in this landscape of browns. We passed rock shelters and caves, the overhanging rock blackened with smoke from previous inhabitants' fires. There were abandoned hiding places for stored supplies here too. We continued to follow the winding wadi bottom, then started moving steadily up-slope once again. I remember feeling very much alone; there was no one else here surely.

Curiously, in the wadi below, and above on the mountainside, we heard donkeys braying. The track was scattered with lumps of telltale dung, which distracted our donkey, a male, from his course. He sniffed the air; his upper lip curled and he called out to the feral donkeys. These escaped donkeys live in the mountains, away from demanding human beings, and seem to fare very well on their own. Not far behind them, however, we heard the excited voices of young boys. They were tracking the donkeys, trying to catch 'bronco' rides. Jum'a 'Aly recognised the boys, who were clearly surprised to hear his voice. He teased them and gently told them to desist and go home. We were, it seems, not alone after all.

Of Tea, Bread and Donkeys

At mid-day we reached a cluster of trees which marked Ra's al-'Ain, or 'head of the spring'. Although later than we had intended, it was time to rest and set a fire for tea. The tea made, the pot was moved to one side and the fire was built up, but then allowed to dwindle ready for the next stage. Our luncheon was to include freshly prepared bread.

There are many ways to prepare bread in the Near East. Our companions, though, were about to make bread in the way most often reserved for journeys (or picnics), and one that is also, predominantly, the domain of men. It is locally called *gurus an-nar*, or '*arbood*'. I have now seen this made several times, but have not yet grown tired of watching the process, and more greedily, of eating the product.

Beside the spring, Jum'a 'Aly combined a simple mixture of flour, salt and water and kneaded it to form a smooth dough. Moving to near the fire, but in the shade, the dough was patted out on a flour sack spread on the ground for the purpose and shaped to form a thick round. The dough was then carefully inserted into the embers of the fire by pushing some of them to one side, placing the dough on those that were left, and then carefully moving the displaced embers on top. The dough was allowed to cook before being uncovered for a time, turned and bedded in embers again. Sometime later the cooked loaf was removed from the fire. After beating and scraping off the sand and embers with a stone, the bread was carefully inspected before tearing off chunks to pass around.

After our lunch, some two hours after stopping, the donkey was loaded up once again and we started climbing steeply. Not far above the spring that accommodated our picnic lunch was an archaeological site, and we stopped to look at walls and scattered pieces of pottery, gratefully catching our breath at the same time. We climbed up through sandstone hills admiring the whirling patterns in the rock that, even when not wet, possess amazing artistry. We talked along the way, and it emerged that Jum'a 'Aly did not know this route. It was very familiar to Abu Fawaz, however, who shouted out the names of the minor peaks as we ascended. It was a long time since he was last here, he admitted. Few people have cause to come this way these days. Still, even with the passage of years, he could point out old campsites and remembered days from his youth spent in this area. He sang as he went along and his voice carried far into the distance.

The donkey led on — up and up. The remarkable thing about donkeys is that they remember routes after only one journey. Even though it is several years since this donkey walked this way, he remembered the route and required no guidance from his human companions. We were following him, in fact.

A friend once told me a story about his grandfather. He had some grain that he did not want anyone else to know about. So one night he loaded up his donkey and set out to hide the grain. He found his way to a secluded spot and buried it underground. Later, he wanted to recover his hoard, but he just simply could not remember where he had put it; and he searched for several days. Then he had an idea. The next night he loaded up the same donkey with bags of soil and started out, letting the donkey lead the way. Eventually, the donkey stopped. At that point, he stomped his foot on the ground and heard the hollow sound that indicated he had found his grain!

We arrived at the *ragaba* or 'neck' of the Wadi Burwas at four o'clock in the afternoon, and could see, for the first time, our pre-arranged rendezvous site. It was, unfortunately, some distance ahead. After a brief rest under a tree, without tea this time, we pressed on, but were growing increasingly tired. Abu Fawaz had stopped walking a long time ago and the donkey was taking the load. We climbed and climbed, passing unoccupied campsites, some of recent and many of more distant dates, and a spectacular cave, its roof blackened and the floor covered in metres of burnt dung.

By six in the evening, our energy was almost completely sapped from the climb. We were already late for our rendezvous at Shamakh, a village that continued to remain

stubbornly in the distance. It was at this point that we reached a Bedouin camp and were invited into the tent for tea. The camp was not far from a bulldozed track that leads to the Hazim 'road', the track which connects some of the old villages of the Shawbak area. I have visited these people before, though not here, back down in the Wadi Faynan when they were camped there last year. Even though we were, by now, extremely late, we gratefully accepted the offer of tea, hoping that the rest and large quantity of sugar the tea contained would help us to reach our destination. Our hosts saw that we were tired and offered us accommodation for the night. We were tempted but remembered that we were being anxiously awaited at Shamakh. Reluctantly, we left.

The last climb up onto the track was the steepest part yet, but once there we were almost at once met by Mohammed (Abu Sayyal) and Abu Fawaz's brother, Abu Zeid, who had immediately spotted us. They had been driving around in Mohammed's white pick-up truck trying to find us after we had failed to appear at Shamakh some two hours before. They were relieved to see us, and we were certainly pleased to see them! The donkey was quickly unloaded and we piled into the back of the truck. The donkey was left to return to the owners of the 'tea tent' some hundred metres below us. We would collect him on our descent in two days' time. The next day was spent resting and recovering, and for Alison and Buthayna, travelling back to Amman. It had been a marvellous, but completely exhausting day.

The Return

For the descent to Wadi Faynan, we decided to make 'finding out' a less arduous project than that we had experienced during our ascent. A diminished group, Isabelle, Abu Fawaz, Jum'a 'Aly and I, arranged to drive the first part of our route down along the Hazim road, The donkey, too, was to be given help, in the form of a lift in the back of Mohammed's pick-up truck. This was riot help that the donkey appreciated, however, and he had to be hobbled, hauled with a rope, and finally yanked into a quiet sitting position in the back of the truck, one foot at a time,

It took us nearly two hours to drive, very slowly, along the Hazim road to the village of Mansura. We then descended partway down a winding rough track that led to 'Ain Bustan. At the point where it was no longer possible to drive safely, also the site of a recently abandoned Bedouin camp, we said good-bye to Mohammed and started the walk proper. In just 35 minutes we reached the wadi bottom, not far from the spring. Abu Fawaz had descended in record time and was already preparing tea. He had a companion, an older man who lives in the mountains alone receiving occasional hospitality from the people there, but he is, in the main, content to be independent,

While comparing differences in Bedouin dialects, we spot, in the distance, a group of women and girls moving towards us with their donkeys. They were on their way to collect water. They covered their faces as they passed our small group, exchanging brief, muffled greetings. We finished our tea and loaded our bags onto the donkey.

Abu Fawaz set off along the Wadi Dithneh track towards Wadi Hammam from where the women and girls had appeared, while we chose the picturesque but more



Our 'tea tent'

difficult route along the Wadi Nahil with its steep drops and water pools that make it impassable to donkeys. Jum'a 'Aly knows the wadi well, as when a youth he lived here with his parents. We were to all meet again where the wadis join at Mulagah, the 'meeting place', before finally walking down the Wadi Ghuwayr to Faynan.

Our path along the Wadi Nahil had a similar aspect and atmosphere to the Siq at Petra: it was a weathered narrow corridor through pink sandstone rock. It did not lead to a stunning Nabatean facade, however, but it did have gloriously lush vegetation, including palms and fig trees, bursting from crevices, high and low, and spring water oozing from the lower levels of the rock into shimmering pools below. Local people refer to this place as a kind of paradise. Paradoxically, the lack of rain in recent years has allowed the verdant vegetation to expand ever more confidently in the absence of turbulent, seasonal flash floods. As we walked, we stopped frequently to scramble and leap down giant steps formed by huge water-driven boulders wedged between the corridor walls, which have acted as natural caches for smaller rocks and pebbles to collect behind over the course of time. At the bottom of each 'giant step', we landed in a shallow pool of cool water. All along the way we paused repeatedly to gaze at the

high cliffs and the wet sparkling vegetation, and, even, to watch a water boatman glide over a pool.

We were not the only people to have walked here recently. The corridor walls were inscribed with names written in black charcoal; the writing implements, burnt sticks, cast aside along the way. The children from the school at Wadi Faynan, and their schoolteachers, had been 'finding out' too.

Carol Palmer (BA (Durham), MA, PhD (Sheffield)) holds the Council for British Research in the Levant Postdoctoral Fellowship at the University of Leicester. She is a member of Professor Graeme Barker's Wadi Faynan, southern Jordan, landscape archaeology project team where she has been conducting ethnoarchaeological research. Previously, she has conducted extensive research among farmers in northern Jordan. Her recent publications include "Following the plough: the agricultural environment of northern Jordan" Levant 30 (1998): 129-65 and "Whose land is it anyway? An historical examination of land tenure and agriculture in northern Jordan" in Gosden and Hather (1999) (eds) The Prehistory of Food: appetites for change, pp. 288-305. As part of her fellowship she is presently researching a book exploring Near Eastern Bedouin and farmer relationships.

Carol Palmer

Uninventing the Wheel?

Jeremy Johns examines two sorts of wheels, and muses on the advance — or otherwise — of technology.

After six hours of tutorials in unbroken succession, the last thing I needed was another fight. But the shiny-faced colleague who sat down beside me, and carefully unwrapped his biscuit ready for dunking, was looking too smug by half. 'Why are you so pleased with yourself?' I asked.

He leant back and adjusted his red yuppy braces the better to display his gym-trim waistline, and said with unbearable self-satisfaction: 'I've just been teaching *God's Caliph*'. 'And has he learned anything yet?' He ignored me, dunked, and continued, 'I think it's the book that I most enjoy teaching to the Third Year. What's yours?'

For a moment, I could think of no work in my own field to compare with that superb little book by Patricia Crone and Martin Hinds — nothing so succinct, so well argued, so accessible to readers, that its errors, idiosyncrasies and omissions must be counted amongst its best qualities. And then it came to me: 'Bullet', I said, 'Dick Bullet — *The Camel and the Wheel*'.

It is twenty-five years since I first lost my temper with Richard W. Bulliet (as it is written) and his brilliant essay on the impact of the camel upon the landscape and material culture of the Middle East. And it is nearly twenty years since I first tried to convey my enthusiasm for it, and rage at it, to a class of bored British prehistorians and Hadrian's Wall types at the University of Newcastle-upon-Tyne. Like *God's Caliph*, it is a book that I have come to value as much for its faults as its qualities; a book that is generous enough to permit the teacher to take it apart and show his students how it is made, and yet entertaining and robust enough to reconstitute itself unscathed after the annual ritual of dismemberment.

Bulliet begins with the observation that, before the Arab conquests of the mid 7th century, wheeled vehicles had been replaced by the camel as a standard means of transportation throughout virtually the beast's entire range from Morocco to Afghanistan. In seeking to date and to account for this transformation, Bulliet seats himself firmly in the North Arabian camel saddle (*shadad*), developed by the bedouin in the early Christian era, as the technological innovation 'which made possible new weaponry, which made possible a shift in the balance of military power in the desert, which made possible the seizure of control of the caravan trade by the camel-breeders, which made possible the social and economic integration of camel-breeding tribes into settled Middle Eastern society, which made possible the replacement of the wheel by the pack camel'.

Robert Benchley remarked that the world was divided into two types of people — those who divide the world into two types of people, and those who don't. At the risk of placing myself amongst the former, it seems to me that historians and archaeologists fall into those who favour neat technological explanations for radical social change, and those who do not. Now, technological causation may be allowed to prehistorians — and is certainly to be preferred to 'the archaeology of mind' — but it just won't do for those periods when what some call 'text-aided archaeology',

and others 'history', inescapably reminds us that human society in the past was no less complex than it is today. Once we cross that invisible frontier from prehistory to history, the road becomes lined with ornate memorials to fallen theories — the horse collar led to the Renaissance; the Roman empire expired from lead poisoning; feudalism was caused by the stirrup; the North Arabian camel saddle explains the rise of Islam — the last, I hasten to add, is not Bulliet's own view, but derives from an unhappy oversimplification of his arguments that was fashionable in the 1980s in popularising general histories which sought to tidy up such messy complexities of Near Eastern history as the early Islamic conquests.

Pottery without wheels

I had never expected that my own research would lead me even close to the phenomenon of the disappearance of the wheel, but, as so often, Khirbat Paris had a surprise in store. When Alison McQuitty and I began our study and excavation of an Islamic village on the Karak Plateau in Jordan — see *Levant* 1989 and 1993 — and the first gufas of sherds began to be carted back to the dig-house for Rob Falkner to study, it gradually began to dawn upon me that, during the medieval period, something extremely strange had happened to the pottery used by the inhabitants of Khirbat Paris,

I asked Alison, Rob, Cherie Lenzen, and other archaeologists far more experienced than I in the Levant; I bought a beer (or six or twelve) for Jim Mason the potter; I read what little was available — Jim Sauer's then classic 'readings' of the pottery from Hesban, the idiosyncratic study of the potters of Deir Alia by Franken and Kalsbeek, Denys Pringle and others on 'Crusader' pottery, and, most useful of all, Robin Brown's many articles and two dissertations on the ceramics from Shawbak, Karak, and the Karak Plateau Survey. And so I slowly learned what everyone else knew already: that, at some time during the medieval period and throughout much of Palestine and Jordan, not just at Khirbat Paris, potters abandoned the wheel and went back to forming vessels with just their hands and a few simple tools.



An example of middle Islamic hand-made geometrically-painted ware from Jordan

In the 19th century, when archaeologists first encountered middle Islamic hand-made pottery in Palestine, they misdated it to the Bronze or Iron Age. Heirs to a Victorian confidence in the unstoppable march of technological progress, they believed that 'there is no instance known of a hand-made pottery fabric coming into existence in an area where wheel-made fabric has once become familiar'. Later, when the advent of stratigraphic excavation left no room for doubt that such hand-made pottery was indeed medieval in date, and when ethnographers found that it was still being produced in rural areas, archaeologists insisted that it was only the most recent product of 'an unbroken tradition' that had persisted amongst the 'primitive villagers of Palestine' since the early 1st millennium BC. Such 'pseudo-prehistoric ware', as they called it, was just one more piece of evidence of the 'unchanging East'.

Only in the second half of the last century did it become clear that wheel-made pottery had dominated the ceramic repertoire of the whole region throughout classical and late antiquity, and that the rise of hand-made pottery was a sudden and surprising phenomenon. By that time, of course, European archaeologists had become accustomed to the fact that, with the sunset of Rome, hand-made pottery in the subsequent Dark Ages had largely replaced wheel-made ceramics in much of the western empire. It was therefore almost inevitable that a similar explanation would be proposed for the rise of hand-made pottery in the Levant. Indeed, the idea that the Arab conquests had destroyed the industrial and commercial infrastructure of the Late Roman and Byzantine periods, and with it the production and trade of wheel-made ceramics, fitted well with the still predominant view that 'Muhammedanism never repairs; it only destroys'.

As it happened, the belief that the early Islamic camel was responsible for smashing the Antique china shop was short-lived, and the excavation of early and middle Islamic sites soon demonstrated that the rise of hand-made pottery did not occur until at least half a millennium *after* the Islamic conquests — the camel was not responsible for the disappearance of the potter's wheel.

Pottery for rich and poor

But the realisation that the rise of hand-made pottery occurred in the 12th century also posed a mighty puzzle. This was the moment that Arthur Lane, ignoring the revolution in

'common pottery' in what he called 'the ceramic underworld', had identified as 'a turning point in the history of Islamic pottery'. This turning point was characterised by the development of 'frit-paste' wares, which reproduced the white body of Chinese porcelain and presented Islamic artists with a medium on which they could paint, or mould, or carve designs and images with a new freedom and inventiveness. How could these two events — the technological advance from clay to frit, and the technological regression from wheel-thrown to hand-made — have coincided?

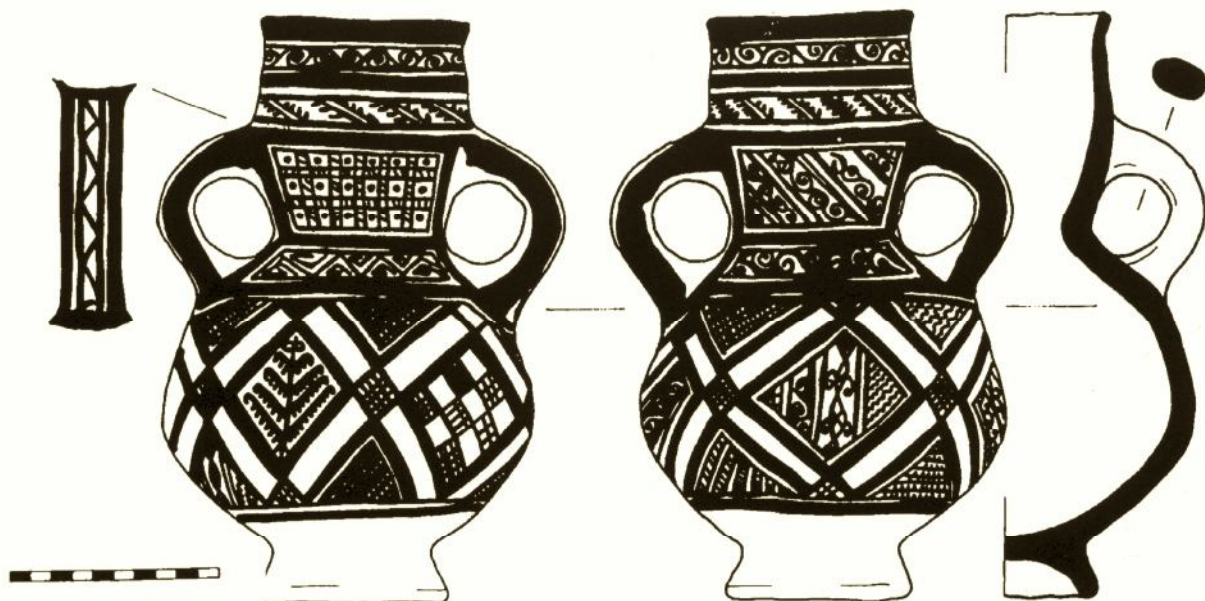
Excavation and field survey on the Karak Plateau in Jordan suggest an answer. During the 13th to 15th centuries, the pottery used by the elite occupants of Karak Castle included: Chinese celadon and porcelain; frit-paste wares decorated in various styles, including lustre, Persian-inspired blue-and-black, and Chinese-inspired blue-and-white; lead-glazed wares with moulded decoration; and a vast quantity of wheel-thrown 'common pottery'. Only 6% of the ceramics from the castle were hand-made. At exactly the same time, just a few kilometres outside the castle walls in villages of the Karak Plateau such as Khirbat Faris, 75-100% of the pottery was hand-made,

What this may suggest is that the socio-economic gulf separating the agricultural villagers of the plateau from the elite in the castle grew very much deeper after the 12th century than it had been throughout classical antiquity and the early Islamic period. In the words of the song, 'It's the rich wot get the porcelain, It's the poor wot get the hand-made geometrically-painted ware' (*trad.*).

Whether or not the rich really *did* grow richer while the poor grew poorer and, *z/they* did, why this should have been so, are questions that will keep archaeologists and historians in work for a considerable time to come. But what is already clear is that it was not just from the countryside of the Levant that the potter's wheel disappeared. At approximately the same time a similar shift from wheel-thrown to hand-made production occurred over a vast region of the Islamic world from Iran and the Arabian Gulf to Nubia and the Maghrib.

A range, come to think of it, that is curiously similar to that of the camel. Now, what if...

Jeremy Johns (Oriental Institute, Oxford)



An example of middle Islamic hand-made geometrically-painted ware from Jordan

RESEARCH REPORTS

Research Reports from Jordan

The Dana-Faynan Ghuwayr Early Prehistory Project *Bill Finlayson (CBRL) and Steven J Mithen (Reading University)*

The Dana-Faynan Ghuwayr Early Prehistory Project is part of the Wadi Faynan project, and is a multi-disciplinary study of the early prehistoric settlement of the wadis Dana, Faynan, and Ghuwayr in southern Jordan. The project involves survey, test-pitting, trial excavations and palaeo-environmental research (with Dr Richard Tipping of Stirling University). Much of the focus of the project has been around the mouth of the Ghuwayr, where we have located a Pre-Pottery Neolithic A (PPNA) site contemporary with the earliest levels of Jericho, about 10,000 years old (WF16). Field survey on the terraces of the Faynan has identified extensive much older Middle Palaeolithic flint scatters.

The PPNA site is extremely interesting as it lies only a few hundred metres from Ghuwayr 1, the PPNB site currently being investigated by Drs Alan Simmons (Nevada) and Mohammad Najjar (Department of Antiquities). The dates for the two sites overlap, and it appears that we may have evidence for a direct cultural sequence, without the usual disturbance of the more ephemeral PPNA material by the substantial structures of the following PPNB. PPNA sites are still very rare, and this appears to be a relatively well preserved one. In particular, we have very good faunal evidence, being studied by Denise Carruthers of the University of Edinburgh, and good macrobotanical data being studied by Amanda Kennedy and Phil Austen. These provide very important data on the subsistence economy at this time, perhaps the most crucial point in the long sequence from hunter-gatherer to farmer.

Anne Pirie of Durham University is studying the chipped stone tools, and her work is having an important bearing on the sequence of industries within the PPNA. There is a long-standing debate as to whether there are two chronologically distinct phases — the Khiamian and the Sultanian. At WF16 we seem to have both in different areas, and if there is a chronological separation then they are in the reverse order from their usual attribution. At present, we interpret this as being good evidence that the differences are functional, and that we are seeing evidence for spatial separation of tasks. This is supported by the structural data where, in every one of the trial trenches excavated, different types of structure and building technique have been found. A key observation here is that these small trial trenches show how much spatial variability there is in a PPNA site, variation that will be missed by small scale horizontal exposure.

In spring 2000 the survey area was extended to the uplands in the area between Wadi Hamra and Wadi Al Bustan, lying north of El Khureiba and south of Dana village, to investigate the exploitation of the flint resources in this area at the top of the Wadi Ghuwayr system. The survey comprised three main elements, recording the nature of the flint sources, assessing the artefactual material, and collecting artefacts from sites defined by the assessment. No definite pre-pottery Neolithic sites were located, but numerous Palaeolithic flint scatters were identified. Although they showed relatively little sign of damage from movement, and several of the scatters appeared to be eroding from *in situ* deposits, the steep slopes

seem unlikely to have presented stable surfaces over the time depth involved. The scatters, however, were mostly discrete with fairly sharp boundaries, unlike the material located near Shobak at the edge of the plateau. We also found material of Lower and Middle Palaeolithic date. Some of the Middle Palaeolithic material may represent industries transitional to the Upper Palaeolithic, but more research has to be undertaken on this,

This phase of the project will be completed in spring 2001 with a season in Faynan. We hope to publish the results rapidly, and to follow this initial survey and trial trenching project with more detailed research on selected sites, especially WF16, as well as some of the Palaeolithic sites. For preliminary reports on the Dana-Faynan Early Prehistory Project, see *Levant* 1996 and 2000.

The project has been operated since 1996 as a joint Universities of Edinburgh and Reading project, with major contributions by staff and postgraduates of the Universities of Stirling and Durham. At the end of 1999 Bill Finlayson moved from Edinburgh to the CBRL in Amman. All project members are grateful to the support and assistance of the Department of Antiquities of Jordan, especially in Mr Jihad Darweesh, who was both our representative and our landlord in 2000.

The Wadi Faynan Landscape Survey (1996-2000) *Graeme Barker (University of Leicester)*

The final field season of the Wadi Faynan Landscape Survey took place in March and April 2000, funded by the CBRL and the AHRB. The project is an inter-disciplinary study of the landscape evolution of the Wadi Faynan, as a contribution to understanding processes of desertification and environmental degradation in arid lands. These processes have been much debated from single-discipline perspectives by archaeologists, historians, and geographers, but the rationale of this project has been to bring together an inter-disciplinary team of archaeologists and environmental scientists to investigate the selected study area within a single integrated research framework. The team involves researchers from a dozen UK universities. Four substantial interim reports have been published in *Levant* on the preliminary results of the 1996 to 1999 field seasons and related laboratory studies. Our work is also a major case study in a recently published book edited by G Barker and D Gilbertson (*The Archaeology of Drylands — Living at the Margin*, London, Routledge, November 2000), and the project will culminate in a substantial monograph.

The final two seasons of field work (1999 and 2000) had six main objectives:

- 1 to complete the geomorphological, palaeoecological, and ecological programme;
- 2 to complete the archaeological survey of the relict field systems flooring the wadi;
- 3 to survey the archaeology outside the field systems;
- 4 to complete the recording and cataloguing of the finds;
- 5 to complete a programme of ethnoarchaeological survey of present-day bedouin structures; and
- 6 to develop a GIS incorporating all these data.

1. The geomorphological, palaeoecological, and ecological programme

The fieldwork was completed, the samples collected in the 1999 fieldwork have been analysed, and the samples collected in the 2000 fieldwork are currently being analysed for pollen and other microfossil indicators of palaeoclimates and environments (Dr C Hunt, Huddersfield), and for metalliferous pollution signatures (Dr J Grattan, Aberystwyth; Prof B Pyatt, Nottingham Trent). This innovative science is producing extraordinary insights into the scale of Nabatean and Roman mining and smelting activities. Samples from this fieldwork have also been sent to other laboratories for C14 and OSL dates.

2. The archaeological survey of the relict field Systems

The fieldwork was completed, and test excavations demonstrated the water-conduit function and Roman age of several major channel systems. Samples from these excavations are also being analysed for pollen, geochemical pollution signatures, and signs of fluvial activity.

3. Surveying the archaeology outside the field Systems

In 1999 some 1000 new archaeological sites were mapped in the c. 30 square kilometres of extremely rugged terrain surveyed outside the field systems. These consist predominantly of lithic concentrations, stone domestic structures, cairn cemeteries, and rock-carvings, representing all periods of settlement from early prehistory to recently-abandoned bedouin campsites. In the 2000 season we made over 100 detailed plans of selected structures and landscapes, dating especially to the later prehistoric and classical periods, as well as detailed copies of a representative sample of pictographs.

4. Recording and cataloguing the finds

Aided by a supplementary grant from AHRB, we have been able to fund an extended study period by Ms H Parton (field assistant to Dr R Tomber) of the prolific Roman material in the autumn of 1999. Funds were also used to allow Dr Tomber and Ms Parton to continue their study of this material in Amman after the 2000 fieldwork. All the primary recording has now been completed. The study of the lithics has also been completed (Dr T Reynolds). Dr R Adams, who is studying the prehistoric pottery collected by the project, was unable to join the field team for the 2000 season, but was able to return to Amman in the summer to complete his cataloguing. The small finds have also been catalogued by Ms Parton, and the c. 60 coins are being studied in Britain.

5. The ethnoarchaeological survey of present-day bedouin structures

The ethnoarchaeological programme has three components: interviewing bedouin informants on land use and settlement today and in the recent past, and specifically on their use of now-abandoned campsites (Dr C Palmer, Leicester); planning such campsites (Dr C Palmer; Dr H Smith, Bournemouth); and sampling sediments from them (Dr Smith). This aims to provide information on campsite characteristics, but also to establish archaeological signatures of different settlement activities to inform the archaeological survey. The programme of fieldwork was completed, representative sites were sampled, and those samples are now under analysis in Bournemouth.

6. The development of the Geographical Information System and its analysis

The development of the GIS was facilitated by the supplementary AHRB grant, which funded this research by

Patrick Daly (DPhil student, Oxford). The system was tested in the summer of 1999 using the 1996-1999 archaeological data. Paul Newson (PhD student, Leicester) has now added the primary ceramic and lithics data and is undertaking the first suite of complete analyses (modelling ancient floodwater farming systems, land management and ownership) for his PhD. He will then collaborate with Patrick in the integrated analysis of the entire data set for the final publication.

The project has succeeded in establishing the principal components of the landscape history of the Wadi Faynan, elucidating complex interactions between herders, farmers and miners through the millennia from the early Holocene (10,000 years ago) to the present day. The team has recovered an impressively rich and complex body of data for human settlement and environmental change. This means that the final report will be able to address major regional research issues such as the antiquity of farming and specialized pastoralism, the social and economic landscapes of early chiefdoms, changing relations between desert societies and their more urbanized neighbours, and processes of imperialism and colonialism. At the same time, the project will provide a long-term analysis of the strategies by which the ancient inhabitants of Wadi Faynan managed their challenging environment, the solutions they developed, their successes and failures, and their short- and long-term environmental impacts, and so it is likely to contribute significantly to wider debates about desertification processes.

The structure of the final report has been agreed by the project team and we aim to bring preliminary texts together in the spring, and then have a small team undertake final library research and editing in Amman in June/July, alongside the final GIS analyses, so as to bring the finalised report together during the summer of 2001.

Archaeobotanical Analyses of the Neolithic Plant Material from Beidha

Sue Colledge, Rowena Gale and Marco Madella

Considerable progress has been made in the investigation of the plant materials recovered from the Neolithic levels at Beidha. Although there were not great quantities of remains, it has been possible to enhance Helbaek's 1966 descriptions of the resources exploited at the site. The sources of evidence for this present study were the impressions of grains and chaff in the burnt plaster, the charred plant remains and wood charcoal fragments recovered from the 1983 and earlier excavations, and the silica skeletons (phytoliths) extracted from the burnt plaster.

There were several crop species previously unrecorded by Helbaek, represented in the impressions and charred remains. This additional data will allow us to reappraise the status of plant resource exploitation at Beidha. Comparison with the suites of taxa found on other pre-pottery Neolithic sites will help us to understand the dynamics of the episodes which took place after the inception of cultivation, which resulted in the spread of domestic cereals and legumes throughout the region. A comprehensive database has been compiled in association with Dr James Conolly (UCL) of all the plant remains recorded on early Neolithic sites in the Levant, to which the Beidha lists have been added. It is hoped that this will provide a background against which the plant-based subsistence system at the site can be assessed.

The quantity of charcoal in the samples varied and was sometimes very sparse. The average size of the charcoal fragments was mostly small, often <2mm in cross section. The fragments were extremely fragile and difficult to prepare, but in view of the importance of the site we made every effort to obtain as much data as possible. Taxa identified in nineteen of the samples included *Juniperus*, *Quercus* (evergreen oak), *Ephedra*, *Carpinus/Ostrya*, *Salix Tamarix* and *Ficus*. Charcoal from hearth residues suggests that fuel wood was gathered from selected taxa, of which the preferred species appeared to have been oak (*Quercus*), juniper (*Juniperus*) and pistachio (*Pistacia*). Other taxa were used less frequently, including *Rhamnus*, tamarisk (*Tamarix*), and possibly fig (*Ficus*) and *Cistus* or hawthorn (*Crataegus*). The evidence suggests that the arboreal vegetation at Beidha in the early Neolithic was characteristic of steppe-type communities, dominated by oak (probably deciduous and evergreen) and juniper woodland, but also with other small trees and shrubs such as pistachio, *Rhamnus*, tamarisk and fig. Willows probably grew in humid, shady rock crevices and in areas of permanently damp soils. Some species probably grew on the limestone cliffs of the Jebel Sharah. The arid sands of the wadi would almost certainly have supported xerophytic shrubs such as *Ephedra* and tamarisk.

During the examination of the impressions in the burnt plaster, several silica skeletons were recognised and were subsequently extracted. Silica skeletons are articulated phytoliths (opaline silica bodies) that retain many of the original anatomical characteristics of the plant epidermis in which they formed. A total of 32 silica skeletons were recovered, mounted in a permanent acrylic mounting medium, and scanned at 200x, 400x and 1000x magnification. Identification was based on the anatomical characteristics of long-cell and short-cell phytoliths, sinuosity of the long-cell walls and papillae ornamentation. We identified both wheat and barley. All the silica skeletons originated from the inflorescence portion of these cereals, and there was no evidence of tissues from leaves or culm. Attempts were not made to distinguish between the epidermal anatomy of the different species of the two genera. Identification of species may be possible, but overcoming the problems encountered due to heavy incrustation of many silica skeletons and paucity of important anatomical features would require more time in order to complete the investigation.

The Archaeological Investigation of 'Aqaba Castle

Johnny DeMeulemeester (Division du Patrimoine, Ministère de la Région wallonne, Namur, Belgium) and Denys Pringle (Cardiff University)

The capture of 'Aqaba and its fortress on 6 July 1917 by the army of Sharif Faysal Ibn Hussayn, accompanied by Colonel T E Lawrence, represented one of the most significant military achievements of the Arab Revolt against the Turks during the First World War, and one whose memory is etched in modern consciousness as a result of its vivid recreation in David Lean's film epic, *Lawrence of Arabia* (1962). Almost exactly eight centuries earlier, however, in 1116-17, 'Aqaba had been occupied by another armed expedition, led by Baldwin I, the Crusader king of Jerusalem and son of Count Eustace II of Boulogne. It remained in Frankish hands until 1170, when it was taken by Saladin (Salah al-Din). For a brief period, over the winter of 1182-3, the place was also held by the infamous Frankish lord of Karak, Reynald of Chatillon, who launched a small flotilla there to harry Muslim shipping in the Red Sea.

The location of 'Aqaba's castle during the twelfth century, however, remains a puzzle for archaeologists and historians. Excavations by Professor Donald Whitcomb of the Oriental Institute in Chicago have shown that the site of the Umayyad and Abbasid walled town of Ayla was abandoned around 1100 or shortly afterwards, while the castle that now stands a kilometre to the south of it and featured in the events of 1917 is generally considered to date no earlier than the Mamluk period. In fact, western sources do not speak of any Crusader castle being established in 'Aqaba in 1116-17. Baldwin's purpose on that occasion seems to have been simply to carry out a scientific and military reconnaissance; and, after collecting shells and stones from the beach and enjoying a bathe in the Red Sea, the Crusaders returned to ash-Shaubak (Montreal) and Jerusalem. It was only later, perhaps during the reign of King Fulk (1131-43), that the Franks returned and established a fortification of some kind in 'Aqaba. This would have been the fortress that Saladin attacked by land and by sea in 1170.

It has often been assumed that this castle was not in present-day 'Aqaba at all but on Jazirat Fara'un (Pharaoh's Island), a small off-shore island lying some 15 km to the south-west, south of Taba on the Egyptian side of the gulf. However, clearance excavations undertaken in recent years have revealed no trace of any Frankish occupation there. Indeed, it seems more likely that the castle on Jazirat Fara'un was built by Saladin himself, after his capture of 'Aqaba in 1170. It certainly existed by 1182, when Reynald of Chatillon attempted to blockade its Muslim garrison by stationing two ships off it.

In the summer of 1999, attention was drawn once again to the Mamluk castle in 'Aqaba as a result of excavations carried out by Sawsan al-Fakhiri and Adnan al-Rfaia of the Department of Antiquities of Jordan. Although the building of this castle is sometimes credited to the Mamluk Sultan al-Nasir Muhammad (c. 1320), specific documentary evidence for his involvement is lacking. The first certain reference is the name of the Sultan al-Ashraf Qansuh al-Ghawri (1510-16), whose name appears in a monumental inscription inside the outer *iwān* of the gatehouse. The excavations in 1999, however, recovered significant quantities of ninth- to eleventh-century pottery from layers underlying the castle, suggesting that the site had been occupied in the Fatimid period. This raised the possibility that the Mamluk castle itself might stand on earlier foundations and that the settlement known as 'Aqabat-Ayla, of which modern 'Aqaba is the successor, may have developed from that time around a fortress already established there.

In order to investigate these possibilities further, a joint Belgian-British-Jordanian project has been set up, under the aegis of the CBRL. The principal institutions involved in the project are the Division du Patrimoine (Ministère de la Région wallonne), Direction de l'Archeologie, Namur; the School of History and Archaeology, Cardiff University; and the Jordanian Department of Antiquities.

A preliminary season of work was undertaken for a three-week period in October and November 2000. The main sponsor of this season was the Division du Patrimoine de la Région wallonne, other grants being provided by the Palestine Exploration Fund and Cardiff University. Equipment and logistical support were provided by the Department of Antiquities, 'Aqaba, and by the CBRL, Amman. The work was directed by Johnny De Meulemeester and Denys Pringle. Jacques de Bie (surveyor), Guy Focant (photographer) and

Katrien Van Iseghem joined the team from Namur, and Andrew Petersen from Cardiff, while Ms Manal Basyouni, Inspector of Antiquities, represented the Jordanian Department of Antiquities.

The main aim of the project is to undertake an archaeological assessment of the Mamluk castle, with a view to characterizing and dating its phases of structural development and occupation. The principal objectives of the 2000 season were therefore:

- to undertake a complete survey and structural interpretation of the castle's above-ground remains
- to define the chronological sequence of occupation of the site and to recover, by trial excavation, a sequence of pottery and other artefacts relating to it
- to define, in so far as time and resources permitted, the layout of the structures underlying the standing Mamluk remains and their relationship (if any) to the Mamluk castle
- to assess why the builders of the castle chose to locate it where they did

Recent restorations of the castle's walls, partly destroyed by Italian (1911-12) and British and French (1914-17) naval bombardments, have complicated the task of interpreting the standing structure. Despite this difficulty, analysis of the standing remains confirms that the oldest parts of the castle, notably the north range and its gatehouse, along with the remaining corner-towers, are no older than the traditionally accepted Mamluk date of foundation at the beginning of the sixteenth century. Later building work, including that associated with the Ottoman Sultan Murâd III in 1587/8, which is also dated by inscriptions, appear to represent little more than renovations and modest alterations to an existing design.

In plan, the castle has the form of a rectangular enclosure, measuring overall some 56.5 m by 58 m, with rounded towers at the north-east and south-east corners and a polygonal one at the south-west (the north-west tower was a casualty of naval gunfire). The most impressive feature is the gatehouse, which projects from the middle of the north wall. The design of this is curiously skewed towards the north-east, while the western of the two rounded turrets that enclose the gate is larger than the other. The reason for this design feature seems to have been to create a false perspective, making the gatehouse appear symmetrical when seen from the principal direction of approach from the north-east.

Initially the gate was closed by a single two-leaf door, defended by a slit-machicolation, before and behind which



Aqaba Castle: The gateway from the north

were open porches or *liwâns*; later, however, the outer arch was narrowed and also provided with its own gate. The corner-towers all seem originally to have been polygonal externally and rounded internally. Later, the north-east and south-east ones were partially reconstructed with a rounded external form; and later still the upper floors and vaults of the towers were rebuilt for the installation of cannon.

Investigation of the internal structures also suggests a complicated sequence of construction and reconstruction, extending over the many centuries during which the castle served both as a fortress and as a khan used by Egyptian pilgrims travelling to and from Mecca and Medina. The rebuilding extends not only to the ranges of cells for Muslim pilgrims (and at certain times troops) which line the inside face of the walls, but also to the mosque in the south range, which, although Mamluk in origin, appears to have undergone at least three phases of rebuilding, during which its floor level was raised by more than a metre.

During the first season of archaeological work, systematic descriptive analysis of the standing walls was accompanied by a topographical and photogrammetrical survey; parts of the walls were also drawn, stone by stone, in the traditional way. These data are now being combined in digital form in Namur. Although the completed drawings will still require further elaboration on site in 2001, it is anticipated that when complete they will provide the means for achieving a fuller understanding of the evolution of the castle than has hitherto been possible.

In addition to the study of the standing fabric, two trial excavations were also made to investigate the relationship between the standing remains of the castle and the below-ground features whose existence had been suggested by the excavations in 1999. The first trench was dug against the inside face of the north range, about 10 m east of the gate passage. This revealed an early wall, one metre wide, which ran at right-angles below the north range. Associated with it was ninth- to eleventh-century pottery, similar to that recovered in 1999. The wall had been razed and the ground levelled up before the construction of the early sixteenth-century gatehouse range over it.

The second trench was excavated inside the NE corner-tower, whose NW outer face had already been investigated by excavation in 1999. Although the stratigraphy inside the tower had been disturbed by a relatively recent treasure-hunting pit, the layers through which this had been dug, pre-dating the tower's foundations, were also found to contain pottery of the ninth to eleventh centuries, mixed with earlier, apparently residual, material including a piece from a Roman *mortarium*.

The short field season in 2000 has thus confirmed the existence of earlier Islamic structures underlying the Mamluk castle in 'Aqaba. A further season is therefore planned for 2001, in order to complete the survey and analysis of the standing structure, to investigate further the chronology of the earlier phases and to determine whether or not there is any direct structural connection between them and the present building.

Khirbat Fan's

Alison McQuitty

As the post-excavation analysis of material from the village of Khirbat Faris proceeds (slowly but surely...), the everyday life of its occupants from the 6th to the 19th centuries



Aqaba Castle: The west range, as rebuilt following destruction by naval bombardment in 1912 and 1916–1917

becomes clearer. This year we have concentrated on looking at the metal, stone and bone objects used in the village and the simple jewellery that adorned men, women and children.

The metal objects included agricultural and household objects such as horse-shoes and harness equipment, sickles for harvesting the wheat and barley that grew around the village, and more personal items such as razors, scissors, cosmetic spatulas and buttons. The presence of a hammer-head and numerous nails suggest that DIY was as popular and necessary in 14th century Jordan as 21st century Britain! The medical instruments that we found included two shallow metal measuring cups for mixing potions. Some of the most intriguing bodies of material are the re-used ceramics: rounded sherds from both wheel-made and hand-made pottery that were used as stoppers for jars containing produce from the village lands and animal herds: yoghurt, olive-oil and grain; gaming counters and even toys.

Most of the jewellery is in the form of beads from necklaces, and bangles made of both glass and copper alloy. The beads

are made from various materials — ceramic, coral, faience/frit, glass, lapis lazuli, limestone and semi-precious stones. Parallels with 19th century traditional Jordanian jewellery indicate that the colours of the beads were significant: blue and black beads were used to ward off the evil eye, clear and white beads were worn by women who were breast-feeding, and orange/ red beads signify fertility. The bangles were both plain and decorated: the metal ones had incised lines, and the glass ones attractive multi-coloured trails of white enamel and orange zig-zag patterns. Some of the bangles are so small that they must have been meant for children. Rings inscribed with Arabic sayings and semi-precious stones completed the repertoire,

In conjunction with what we know about the houses where these people lived, the type of pottery they used, the range of animals they raised and ate and the species of plants that they cultivated, this information about the objects that the villagers used is helping the Khirbat Paris Project staff produce a rounded picture of how people might have lived in years gone by.

Research Reports from Israel and the Palestinian Territories

Gaza Research Project 2000: Excavations at el-Moghraqa Area 1

Louise Steel (University of Lampeter)

In 1996 a Middle to Late Bronze Age site was identified in the region of el-Moghraqa, approximately 700m north of Tell el-Ajjul and 1 km from the coast, following the removal of sand dunes. In 1999 the Gaza Research Project (a joint Anglo-Palestinian team, directed by Jo Clarke, Moain Sadeq and Louise Steel) completed a topographic and intensive survey of this site, which was designated Moghraqa Area 1, and following on from this conducted a preliminary excavation season in June 2000. The GRP is particularly grateful to the British Council, the United Nations Reporting and Evacuation Centre and Alstom Power for their logistical aid in Gaza.

The Middle to Late Bronze Age surface scatter spreads over an area of approximately 200 m², and is concentrated in two discrete locations separated by a sand dune (Areas 1 and 2). Where the dune has been removed the topography is flat

with a characteristic damp sandy soil. Surface survey identified an apparent functional difference between Areas 1 and 2: in 1996 large numbers of terracotta cone fragments had been found in a discrete zone in Area 1, many bearing the praenomen of Thutmose III (mn-kpr-r'). Survey also revealed quantities of worked stone artefacts in Area 1, including carnelian bead fragments, an alabaster kohl bottle and fragments of basalt vessels. This is distinct from the cultural remains found in Area 2, although large quantities of well-preserved ceramics, mud brick and bone were retrieved here,

The main objectives of the 2000 excavation season were the conservation of the terracotta cones by Noel Siver, excavation in Area 1 to establish its northern limits and the depth of deposit, and the completion of a geomorphological study of the immediate region by Neil Munro. Excavation revealed a number of pits, but given a number of constraints — most notably time, but also the soil conditions — it was not possible to excavate these pits completely. Even so, sampling the pits



Men at work at el-Moghraqa

revealed that their contents were rich in animal bones and Middle to Late Bronze Age pottery. Particularly interesting were an Old Assyrian cylinder seal (studied by Dominique Collon) and a baked clay sealing stamped with a scarab seal, from the unsealed upper levels of one pit.

Unfortunately we were unable to determine the archaeological context of the terracotta cones, which appear to lie above compacted sand dune of uncertain date. The area was rich in materials suggestive of an outdoor workshop area — a clay-lined pit, unworked carnelian, and mother of pearl, pumice, haematite. Other finds from the area include scarab beads of frit and jasper, a clay sealing and large numbers of copper or copper alloy artefacts, including several arrowheads. Following conservation and cleaning of the cones it was revealed that two cones had been marked with the praenomen of Hatshepsut: *M3't -k'-r'*.

Tel Jezreel Post-Excavation Project

Tel Jezreel was a major excavation of the British School of Archaeology in Jerusalem, directed by John Woodhead, and was conducted with the Institute of Archaeology of Tel Aviv University between 1990 and 1996. Work on the material from this excavation is now well underway. Three joint interim reports were produced during the project, and the ongoing post-excavation work is being undertaken as a British responsibility, and therefore a CBRL one.

By the end of 1999 an internal report had been produced bringing together the information from the excavation season (Cameron and Woodhead 1999, *Excavations at Tel Jezreel, Data Structure Report*, Centre for Field Archaeology, University of Edinburgh). This report described the work necessary to bring the project to full publication. This includes a detailed stratigraphic analysis, which is vital to establish the security of all contexts and therefore enabling any subsequent analysis, including the faunal analysis. This stratigraphic work is in process at the University of Edinburgh, where a copy of the project archive is presently held.

More detailed artefact work, including study, drawing and photography, has been undertaken principally by Tony Grey, who has also contributed significantly to tidying the BSAJ storerooms in the process. A brief scan by Piotr Bienkowski suggested that the Iron Age pottery from the site would repay an even more detailed examination, and we are currently looking at potential ways of funding a postgraduate study of this material. While this will inevitably slow down our post-excavation work and publication plans, this was a major

excavation with a substantial input of resources, and it is important that this investment is fully realised by proper analysis and publication.

More Light on the Cave of John the Baptist

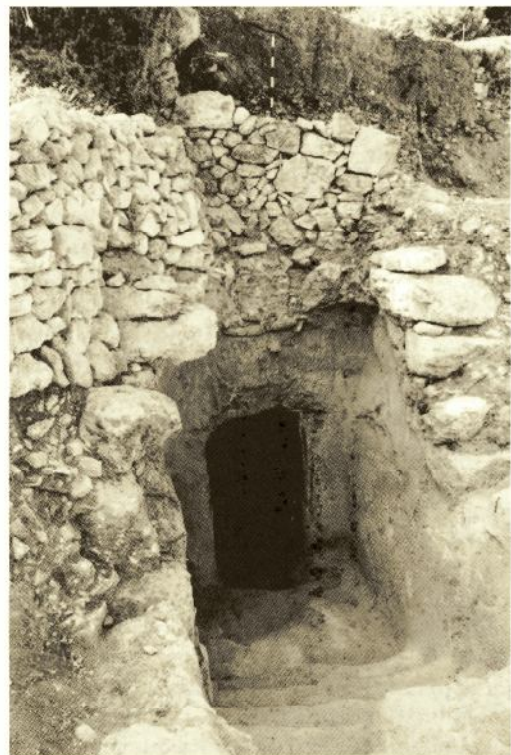
Shimon Gibson (Albright Institute, Jerusalem)

Since the discovery of a cave with amazing drawings on its walls about a kilometre distant from the site of Belmont/Suba (see the brief report in last year's *CBRL News*), a substantial programme of excavations has been undertaken at the site by Shimon Gibson, in association with James Tabor of the University of North Carolina at Charlotte.

There are two sets of drawings on the walls, including a figure identified as that of John the Baptist. The iconographic data combined with the discovery of a living surface from the Byzantine period in the cave suggests that the drawings were made during the 5th to 6th centuries AD. Below the Byzantine-period surface was a very thick sequence of silts with living surfaces with large quantities of pottery on them dating from the 1st century AD. Approximately 50,000 potsherds were recovered in the excavations, and some 32,000 of these were painstakingly examined by the London-based conservator, Noel Siver, who repaired the diagnostics and organized the materials by fabric type.

The cave appears to have been used as a large Jewish ritual pool (*miqweh*), but its monumental size makes it unique. The cave was approached by a stepped porch. The permanent team working on the site includes Rafi Lewis (Site Manager), Fadi Amirah (Surveyor), Sandu Menrea (Photographer), and Reuven Kalifon and Yaaqov Ha-Subai (Kibbutz Zova liaison), and financing was received from various sources including the Jerusalem Historical Society and the Foundation for Biblical Archaeology.

Since the cave is located on the lower slope of a wadi, the geomorphologist of the expedition, Neil Munro, wanted to



Entrance to the cave of John the Baptist

have an idea about the soils in the valley itself, and so he supervised the excavation of three deep pits all the way down to the rock floor of the valley. Dating evidence suggests deforestation procedures took place on the adjacent slopes from as early as the Hellenistic period (2nd century BC).

We also undertook excavations in the area of the spring of Ain Suba, not far from Belmont Castle, discovering parts of a fortification system that appears to have surrounded the Lower City of Suba, revealing additional parts of the complex water system and examining a number of cave dwellings. Work will continue at the Cave of John the Baptist and at Ain Suba in May 2001.

The Medieval and Ottoman Survey, 2000

Michael H Burgoyne

The twelfth season of the Medieval and Ottoman Survey took place from mid-August to mid-September, and was sponsored by the CBRL and the Palestine Exploration Fund. It was spent investigating the village of Sabastiya, which lies about 400 m above sea level in the hills 12 km north-west of Nablus. The team was led by Field Director Dr Mahmoud Hawari, and included Catharine Parker (University of Birmingham), Katriina Heikkila (Cardiff University), Ian Heath (University of Manchester), David Swan (Glasgow University Archaeological Research Division), and two Palestinian students of architecture, Sari Khayat and Abdalla Qadara, from an-Najjah University, Nablus. Project Director Dr Michael Burgoyne spent the first two weeks of September with the team.

Sabastiya, which in 1999 had a population of 2311, stands on the eastern spur of the ancient hilltop site of Samaria/Sebaste. Archaeological excavations in the village in the 1900s revealed Roman, Byzantine and Crusader remains but, curiously, nothing Islamic older than the Ottoman period. The well-recorded remains of the Crusader cathedral church dedicated to John the Baptist, built over the ruins of an earlier Byzantine church at the east end of the village, now contain the only mosque. What survives of a Roman mausoleum, noted for its early (second century AD) pendentive dome, lies within the village to the south of the mosque, immediately outside the line of the Roman city wall. Traces of an aqueduct have also been unearthed; this appears to have supplied water to the village until modern times. South-east of the mosque are



Main (east) facade of Bayt Hawain showing crown of vault projecting above ground at the foot of the wall on the left, and main entrance on right. Note the adjustment in the lower courses of masonry to accommodate the earlier vault



Courtyard of Bayt Hawain looking north-east

various vaulted structures, not yet thoroughly investigated, some of which may also date from the Crusader period. There are few obvious traces of pre-Ottoman building in addition to these structures, although the tops of buried stone vaults project above the surface here and there.

The present village is Ottoman. Few of the traditional village houses seem to have been built earlier than the 19th century. In 1822, J S Buckingham described the village as consisting 'only of about thirty dwellings, all extremely humble...', but the Survey of Western Palestine in 1872-75 has Sabastiya as a 'large and flourishing village of stone and mud houses...'. It may be assumed, therefore, that much of the village's growth took place in the middle years of the 19th century. The map illustrating the report of the 1908-10 Harvard University excavations shows the village occupying much the same position as it does today, apart from modern houses of concrete that are spreading around the fringes. The few inscriptions that were found by the MOS team belong to the 20th century.

The traditional buildings are of two main types. The first follows the usual local construction technique of rubble walls — often incorporating considerable quantities of architectural *spolia* — which support stone vaults. A second type, peculiar to villages with an accessible supply of timber, was named *Bogenhaus* or 'arch-house' by Gustav Dalman, because the internal space is spanned by arches not vaults. These arches carry roof timbers (usually irregular branches and trunks of fruit trees from the surrounding orchards), which are covered by scrubby plants and finished with a thick, waterproof layer of clayey earth. A third, more modern, type is roofed by steel joists supporting concrete ceilings, which are said by residents to have been introduced no earlier than 1927 (when a major earthquake struck the region).

There are few obvious criteria that might help in establishing dates of construction. The masonry of all periods is invariably bound by an earth mortar containing lime inclusions and the joints are pointed with a rich lime mortar. The design of doorways varies and may be useful in establishing a chronology; a record of them has been begun in order to build up a typological catalogue. Similarly, stone tooling is also being recorded.

The chief effort in the MOS 2000 season consisted, however, in recording a large courtyard house (*hawsh*). Two of these houses in the village have more or less impressive facades

and stand out as the most important old dwellings. The more elaborate of the two, the Dar Ka'id, was recently recorded by the Riwaq Centre for Architectural Conservation and, though it is unpublished, we saw no need to repeat its work. Instead, we concentrated our efforts in recording the second, known as the Bayt Hawari.

The main, arched entrance porch of the Bayt Hawari leads into an open courtyard enclosed by buildings on all four sides. At ground level many of these buildings are ruinous or derelict, and others are used simply for storage. The present living quarters are all in more modern extensions on the upper floors. The various buildings around the courtyard appear to have been constructed at different times and unified as one compound, probably with the addition of the east street frontage including the entrance porch. An illustrated architectural description and analysis is due to appear in a future issue of *Levant*.

In the next season of the MOS, we intend to concentrate on the buildings south and east of the mosque, on the shrine of Nabi Yahya (St John the Baptist), and on developing our typologies of doors and stone-dressing techniques.

The Ramla Project, 1999/2000

Denys Pringle (Cardiff University)

The Ramla Project aims to investigate the cultural, social, economic and topographical development of the town from its foundation around 715 to 1917. The initial objective is to produce an archaeological assessment of the site as a whole, drawing on contributions from several different specialists.

1. Historical research

A chapter on Ottoman Ramla (1516-1917) is now being prepared by Dr Matthew Elliott. This will extend and complete the chronological sequence of historical chapters covering the Early Islamic, Crusader and Ayyubid-Mamluk periods that are being written by Hugh Kennedy, Peter Edbury and Donald Richards respectively. In addition, Professor Benjamin Kedar (Hebrew University of Jerusalem) is working on a chapter presenting and discussing the German, British and Israeli aerial photographs of Ramla, taken from the time of the First World War to the present day.

2. Topographical survey

Mr John Arthur (Glasgow University) has completed the digitization of the data from the topographical surveys undertaken in 1997 and 1999 (see A Petersen, *Levant* 32 (2000), 97-9), as well as the modern town plan. The locations and plans of historic buildings and areas available for archaeological excavation have also been added to the digitized database.

A magnetometer survey of five selected areas of the site was also carried out by Andrew Petersen (Cardiff University) and Robert Wardill (Essex Archaeological Unit) in November 1999, with equipment loaned by the Essex Archaeological Unit. Two of these areas proved to be too disturbed by the dumping of modern debris to produce useful results. The three others produced evidence of linear features, one of them almost certainly an aqueduct, while the others still remain to be investigated further. An interim report on this work will appear in *Levant* 33 (2001).

3. Architectural survey

Dr Michael Burgoyne has completed his drawing of the White Mosque. The other architectural survey drawings of Muslim

buildings in Ramla are currently being prepared for publication by Howard Mason (Cardiff University).

4. Archaeological archive research

Research in tracking down the numerous unpublished excavations that have taken place in Ramla since 1948 is now being undertaken by Dr Fanny Vitto (Wolfson College, Oxford). This will result in the production of a gazetteer of archaeological excavations together with information that will allow the sites to be plotted accurately on the digitized map.

Jaba' Village Ethnoarchaeological Research Project

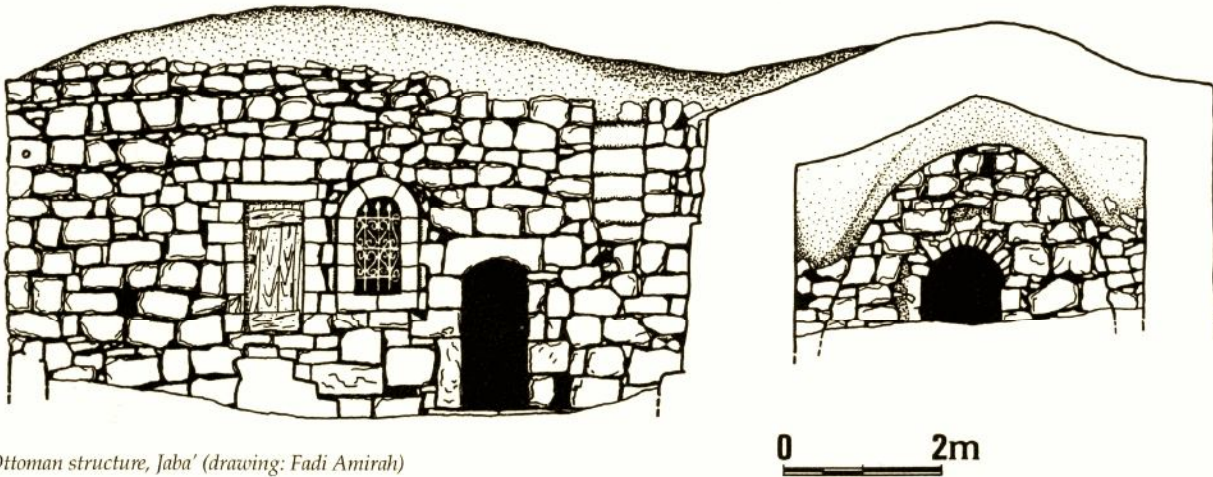
Shimon Gibson (Albright Institute, Jerusalem) and Jamal Bargouth

Another season of work investigating the agricultural village of Jaba' north of Jerusalem was accomplished between June and September 2000, with the generous financial support of the CBRL and the Palestine Exploration Fund. We managed to gather an enormous amount of information about the chronological development of the village, the architecture of its houses, and its agricultural traditions. We also had a wonderful time. The Jaba' villagers were extremely welcoming, inviting us in for numerous cups of coffee and tea, helping us with logistical problems, and pointing us towards hidden archaeological features. We felt very much at home. Children followed us around everywhere eager to see what we were doing, including a few Bedouin children.

The serious work began with the preparation of a map of the entire old core of the village (an area of approximately one acre) by George Abdul-Nour and a team of surveyors from Ramallah. On completing this part of the work, our archaeological surveyor, Fadi Amirah, then travelled out to the site and began preparing detailed plans of all the ground-floor interiors of the building complexes and the features around them, namely stone fences, cistern openings, rock outcrops, and bread ovens. Fadi's work was superb, but we



Bedouin children



Ottoman structure, Jaba' (drawing: Fadi Amirah)

soon realized that it was going to be impossible to map the houses of the entire village in the short time that our funds permitted. Hence, we needed some help with the detailed measuring.

By happy coincidence we heard that Shadi al-Ghaban of the Department of Architecture at Birzeit University was looking for a summer project for a group of his students. The students worked with us over a period of two weeks, and within this time we managed to make detailed plans of almost all of the building complexes at every floor level, with elevations of walls, windows, architectural details, and a list of all Arabic building inscriptions. The results were amazing and the enthusiasm of the students was boundless. We believe that this is the first time that a detailed stone-by-stone map has been made of an entire Palestinian village.

We also continued making a systematic gazetteer of all the features pertaining to each stage of construction evident within the building complexes, with the writing up of detailed notes and photographic documentation. Recording of

agricultural implements was continued with the discovery of a number of caches of material in the basements of houses: ploughs, threshing forks, sickles and so forth. Entering these basements was always an adventure. They tended to be extremely dusty with collapsed material all over the place, spiders and enormous webs that would infrequently get caught up in one's hair. The spiders were of the mouse-catching species, quite large (about three inches across), black and hairy. One cave had a small entrance, and one of us on entering found himself being glared at by hundreds of such spiders; after a quick inspection of the cave he beat a rapid retreat...

Our thanks to the CBRL and PEF for making this project a reality, to the villagers of Jaba' for their hospitality, to Shadi al-Ghaban and the Birzeit University students (Muwafaq, Dana, Tariq, Siba, Haifa, Amro, Shireen, Sameer, Suzan and Ziad), and to our many friends and colleagues for their support and encouragement, namely Dr Kay Prag, Prof Denys Pringle, Dr Mark Whittow, Prof Claudine Dauphin, Dr Michael Burgoyne, Dr Jo Clarke, and many others. *Shukran!*

Research Reports from Syria

Jerablus Tahtani 2000

Edgar Peltenburg (University of Edinburgh)

The dual aims of this season's work were to study material in preparation for final publication of the funerary record, and to resolve outstanding stratigraphic problems on site by limited excavation.

In order to provide a framework for the publication programme and to discuss progress and how best to disseminate information, we held a Project workshop in Edinburgh for all major contributors. Bolger, Campbell, Ceron-Carrasco, Lunt, Mavros, Parris, Peltenburg, Philip, Prag and Watt took part. During the day's meeting, contributors provided progress reports, common concerns about the database were raised, we agreed on the establishment of a web page, and we finalised a revised schedule for submission of 1st drafts.

At our excavation house in Jerablus, all tomb objects were assembled by tomb groups, final pottery recording was undertaken, 80% of the drawing and photography was completed and databases for this volume were refined and completed. Analysts are now receiving the results of this

preparation and the pro-forma Catalogue publication chapter which will need their input. The balance of human bone, ¹⁴C samples and palaeobotanical samples were successfully exported and are now being dealt with by specialists,

Clarification of stratigraphic issues entailed excavation in deposits of two periods, 1 A, the Local Late Chalcolithic, and 2B, the fort and its extra-mural occupation belonging to the Early Bronze Age. For terminology and location of areas, see our preliminary report in *Levant* 2000.

During the 1999 season, it became evident that the Uruk Period occupation in Area III rested on Local Late Chalcolithic (Period 1A) material of unknown depth. This season we showed that the latter consisted of shallow remains of activities situated directly on the natural silts of the Euphrates floodplain. They were examined in a 70 m² area, but they were disturbed by Uruk pits, mainly below Building 2185. Ephemeral remains include pestholes, mudbrick walls, hearths and surfaces. It was not possible to define a coherent architectural unit, but we may nonetheless conclude that the site was founded in this precarious, riverside locale before Uruk pottery was used in the settlement. The valuable ceramic sequence will be studied in a future post-excavation season.

Outstanding issues for Period 2B (Early Bronze Age) were to attempt to date and characterise the initial occupation of the fort in Area IV, to clarify the development of the fortification system in Area I and to establish the chronological status of the Lower Sector lying to the south of the fort in Area II.

The Early Bronze Age Fort (Area IV)

In order to evaluate reasons why a fort was imposed on the earlier Early Bronze Age settlement, we required an exposure of the initial occupation of the fort and investigation of its relationship with the underlying occupation in Area IV. This probe would also provide much-needed evidence concerning the chronology of the first phases of the fort. To accomplish these goals, we carried out a 30 m² sounding in the base of our 1999 excavation between the fort wall and the south limit of excavation.

A dense array of built features, including rooms, entrances, passageways and drains, slowed operations in the sounding. This occupation phase was marked by higher proportions of possible slag. Below, we unexpectedly located what are most probably two earlier fort walls. It seems that what we had hitherto referred to as the fort wall (999) in Area IV was but an extension founded on material typical of the glacia thrown up against the fort walls in Areas I and III. On this basis, we may infer that the fort extension took place soon after the primary occupation, when the whole interior was artificially raised and the free-standing circuit walls were strengthened by a broad glacia.

The earlier fort walls, 3040 and 3152, are continuous and on the same alignment as 999. Glacia material abutted the northern faces, hence the fort on this part of the site had been strengthened by an additional wall or buttress before the glacia was erected against it. While this evidence represents a significant addition to our understanding of the history of the fort, the time that it took to unravel these deposits meant that we were unfortunately unable to reach the initial occupation as planned.

Early Bronze Age Defences (Area I)

Here we hoped to refine our understanding of three previously identified, linked architectural elements: fort, extension and annex. In the course of this work, it became clear that the narrow entrance through the annex wall probably led to an internal route which extends beyond the limit of excavation. So we do not know how or if the route may have led to entrances through the extension and fort walls which lay further inside.

Definition of the inner face of the fort wall established that it was 4 m wide in this area, far wider than elsewhere. The surviving 3 m high wall of compact yellow mudbricks stands on a stone bulwark 1.7 m in height. It is possible that the wall incorporates a mudbrick filled room or casemate.

No further work was carried out inside the extension containing specialised facilities between the fort and annex. All work was confined to relations with adjacent fortification components.

The annex was filled with domestic rooms down to the threshold of the narrow entrance just mentioned. This sequence confirms that the annex was used for additional living quarters, at least in its ultimate phases. Below the narrow entrance there was possibly a much wider entrance or gate, but this had been disturbed by later building. We have, therefore, ascertained that a reduction in entrance size

and possibly function took place, a sequence that corresponds to the successive diminution of size of the external passageway which led up to the fort complex.

The Lower Sector (Area II)

Removal of a baulk at the southern end of the extra-mural passageways in the Lower Sector yielded a Period 3 inhumation burial, the first secure deposit recovered from the Iron Age. Amongst limited grave goods was a bronze omphalos bowl similar to those found at Deve Hüyük. Several EBA graves were also cut into Passage 990, the latest of the sequence. This area, therefore, became a burial ground after it had ceased to function as a route into the fort, and presumably after phase 1 of high status Tomb 302. There were no burials in Tomb 302 after phase 1, so these satellite graves were clustered around a monument for the ancestors. In total, 8 graves were recovered from Area II this season.

Excavation of the revetment walls bordering the passageways were carried out in order to date passage-building events more closely. They were separated by intrusions of concentrations of water-worn pebbles lying in sorted bands. This suggests that passages were subject to repeated riverine erosion,

We also attempted to establish whether the southern terminals of the passageways were attached to an outer wall that enclosed this low zone outside the fort. Erosion had severely damaged deposits here, and no associated wall was located. One fairly intact mudbrick wall stratigraphically below the terminals had contemporary deposits with exclusive Uruk sherds. This is approximately at the same absolute height as Uruk deposits below the South Terrace, and so Uruk period occupation may exist over an extensive and fairly accessible area to the south of the main tell,

For more information see <<http://www.arcl.ed.ac.uk/arch/jerablus/jerahome.html>>.

Settlement and Landscape Development in the Homs Region (SHR)

Graham Philip (University of Durham), Faird Jabour and Man'am Bshesh (Directorate General of Antiquities and Museums, Syria), and Anthony Beck (University of Durham).

Archaeologists working in Syria have traditionally concentrated their attention upon large, highly visible sites. Accordingly, much less attention has been paid to investigating the development of the landscape within which these sites were located. The present project seeks to address this problem through an investigation which examines the long-term trends in human settlement and landscape development and the relationship between them, within a vitally important but poorly documented region of Syria — the Orontes Valley around the city of Homs.

The First Practical Steps

Preliminary visits to Homs in 1996 and 1998 revealed a surprisingly diverse regional landscape. In addition to tells of all sizes, it was apparent that in the limestone areas south of Homs many sites were 'flat', their presence indicated only by surface artefact scatters, or by variations in soil colour and texture. Many such sites did not appear on the available maps. Furthermore, the stony basaltic landscape west of the Orontes revealed a very different kind of archaeology. Here we encountered a complex array of stone structures, including rectilinear field systems, cairns, and tombs. In addition, the



Bulldozer destroying ancient cairns and field systems adjacent to one of the project's test areas

initial visits emphasized the scale of the threat to the archaeological record and its ongoing destruction due to the growth of towns and villages and the demands of modern agriculture.

The survey area encompasses several quite distinct environmental zones, each of which offers rather different possibilities for exploitation by human groups. It therefore provides an opportunity to investigate themes which are relatively under-explored in archaeological research in the Middle East:

- 1 the exploration of diversity among contemporary human groups
- 2 the investigation of the relationship between human activity and the development of the local environment within individual environmental zones
- 3 investigation of the long-term relationship between human activity in different but adjacent landscapes

Archaeological Investigations

Given our limited knowledge of the ancient landscape of Syria, and the immediacy of the threats, it seemed appropriate to investigate a sample area within each landscape category which was large enough to allow us to establish both the range and spatial structure of human activity within that particular unit. This meant that the survey would have to cover a relatively large area. The next problem was to find an effective method for locating 'sites' (used in a broad sense to mean the physical evidence for human activity). The most detailed maps generally available are at a scale of 1:50,000, and omit many known sites, while Syria currently has no national Sites and Monuments Record. The project therefore had to collect its data from scratch. But how should this be done?

Many surveys in the Middle East have concentrated upon known or readily visible sites, from which 'grab' samples of surface material are collected. While this ensures a rapid coverage of relatively large areas, it can provide no more than a crude outline of the major periods of occupation at the largest and most conspicuous sites. Given the large number of low visibility 'flat' sites and areas of walling and cairns revealed in 1996 and 1998, this did not seem likely to provide an answer. Nor, however, did the intensive field-walking favoured in some parts of the Mediterranean. While this can provide a very detailed coverage of small areas, it was felt to be too time-consuming to offer a viable solution for SHR. Our problem therefore was to find a way to locate potential sites rapidly, without having to commit ourselves to an unrealistically long period of field walking.

The answer came through a combination of map data and satellite imagery. In addition to those sites actually identified as sites on the maps, we observed various features which *might* represent sites, although not marked as such, for example topographic anomalies and suggestive place names (*potential* sites). These were highlighted for future field visits. Further valuable data came from declassified American Corona satellite imagery. These high-resolution satellite photographs taken in the 1960s provide a snapshot of the landscape as it was around 30 years ago, and contain much information that has subsequently been lost.

Corona imagery was particularly valuable in the limestone, where the images revealed many anomalous features. When the images were geocorrected, some of the anomalies were seen to correlate with known sites, suggesting that similar but hitherto unknown features should be marked down for field visits. Other anomalies appeared to correlate with features identified on the maps as *potential* sites, while others did not seem to relate to anything indicated on the maps, and were shown by subsequent ground truthing to represent hitherto unidentified sites. Taken together the mapping and Corona provided a powerful tool through which we could focus our attention upon areas of high archaeological potential.

In the basalt, the Corona imagery revealed extensive areas of walls and cairns, providing a means of mapping the extent of these systems, and thus exploring their positioning with respect to landscape criteria such as hydrology, slope and aspect. In addition Landsat multispectral data, while of significantly lower resolution, was able to produce valuable information on soil types and water retention, which would allow us to put sites and landscape features into an environmental context.

Initial field results

Fieldwork has focused upon three main themes:

1. The rapid ground investigation of anomalous features visible on Corona imagery. To date around 180 spatial units (including tells, sherd scatters, transects and concentrations of structures) have been visited and briefly recorded. The resulting data is beginning to provide an accurate indication of the extent and nature of the archaeological record within the study area, and will provide a firm basis upon which future survey strategies can be formulated.

2. A programme of topographic survey and systematic surface collection at a sample of the confirmed sites. Work includes a contour survey, the spatially controlled sampling of surface material, and systematic off-site field-walking. So far we have fully investigated seven sites. Surface collection has involved the dry-sieving of material collected from a set of 2 x 2 m squares placed as evenly as possible across the site. The value of this technique was confirmed by the recovery of a few small sherds of fine-wares which have been provisionally identified as Cypriot and Mycenaean; it is felt unlikely that these would have been recovered by traditional surface pick-up.

3. A programme of palaeoenvironmental investigations. Coring in 1999 revealed that sediments at the bottom of Lake Qattiné, located south-west of Horns, preserve sufficient pollen to provide the basis of a local palaeoenvironmental sequence. Initial radiocarbon dates suggest that sediments collected from a depth of 1.6 m can be dated to the Bronze Age, and that earlier material is likely to be preserved at a greater depth. The exposed sides of eroded, lake-edge tells reveal how much the lake has shrunk in recent years as a

result of the extraction of water for irrigation agriculture. Continued shrinkage will eventually lead to the destruction of the lake sediments and the loss of palaeoenvironmental evidence.

Some preliminary thoughts

While the heaviest concentration of tell sites occurs along the Orontes River, nearly all the other tells in the area south-west of Horns lie along a series of shallow wadi systems which cross the limestone from south-east to north-west. Occupation on these sites appears to be concentrated upon the 2nd and 1st millennia BC. Walking transects between and along these wadis has produced indications of prehistoric occupation, including Neolithic/ Chalcolithic material and Palaeolithic stone tools, but no indication of additional Bronze or Iron Age occupation, suggesting that settlement during these periods was concentrated upon tells.

From the Roman period onwards, there appears to have been a significant reorganization of settlement away from fortified tells and towards the establishment of new, open settlements. To judge from the number of 'flat' sites producing diagnostic pottery, this pattern appears to have continued at least as late as the Mamluk period, perhaps suggesting a degree of continuity within the local agricultural regime. Rapid survey has also made it clear that despite their lower archaeological visibility when compared to the tells, flat sites dating to the Byzantine and Islamic periods are far more numerous and widely distributed across the landscape than are Bronze Age settlements. While the rural settlement of the Islamic period has received little attention from archaeologists as yet, the project is beginning to demonstrate the likely importance of villages in the Horns region to the wider regional economy.

Research Reports from Cyprus

Comparing the Ancient Populations of Cyprus and Syria

Zissis Farms (University of Sheffield)

The travel grant I received from the CBRL, which was greatly appreciated, allowed me to travel to Cyprus in February 1999 to collect data for my PhD research. This research involves studying human skeletal remains from Bronze Age sites in the Eastern Mediterranean. The human remains I studied were from the Cypriot sites of Lemba *Lakkous* and Kissonerga *Mosphilia* and from the Syrian site of Jerablus Tahtani. The material from the two Cypriot sites is stored at the Paphos museum, to which I was generously given access, and the Syrian collection is stored at the Lemba Archaeological Centre near Paphos. All three sites have been excavated by teams lead by Professor Edgar Peltenburg of the University of Edinburgh.

The data collected from the skeletal remains consisted of age, sex, stature, general health and non-metric data. The non-metric data were collected from the cranium, post-cranium population, and dentition, and will be used to compare the biological affinities of the people from the different sites. Although the human remains from the two Cypriot sites had been previously studied and published, they still yielded information regarding the biological character of the Bronze Age people.

The preliminary calculations have yielded approximately 52 human remains from Lemba *Lakkous*, 78 from Kissonerga *Mosphilia* and 146 from Jerablus Tahtani. An accurate total from Jerablus Tahtani is difficult because of the many

The basalt terrain to the north of Horns and west of the Orontes presents a very different set of problems. This landscape as preserved today is characterized by a complex series of walls and piles of stone, which should be understood as a *palimpsest*, that is the combined product of millennia of human activity and landscape modification. The key to understanding developments in the basalt region lies in disentangling the various components of the present-day landscape.

A period of one week was spent examining field systems around the village of Karad Dehasnyah, which appear largely undisturbed by recent agricultural developments. A variety of structures was recognized: cairns of different shapes, sizes and construction; field walls running on different alignments and preserved to various widths and heights; and various oval and rectilinear structures (perhaps house remains?). It may well prove possible to separate the various components of this landscape in due course. Artefact scatters occurring within these field systems include small quantities of abraded, hard-fired red pottery, provisionally taken as being Roman/ Byzantine in date, but also a range of distinctive chipped stone material which may indicate the presence of earlier activity in this area,

Acknowledgements

We would like to express our thanks to the Syrian Directorate General of Antiquities and Museums, whose support and assistance is gratefully acknowledged, and to the CBRL and the Research Committee of the University of Durham, both of whom have provided essential financial support for the project.

secondary burials on the site. This current number will probably change after more analysis.

A comparison of the frequency of dental traits is the basis of the non-metric analysis. A preliminary comparison using 1,259 combined teeth has yielded some interesting results. Using a distance equation, the results suggest that Cypriot human remains are very similar to the Syrian ones, but the remains from Lemba *Lakkous* were found to be more similar to Jerablus Tahtani than to Kissonerga *Mosphilia*. The results can be used for many interpretations, but the most revealing is that distance may not be as important a factor regarding the biological affinities of different groups as would be thought,

These two Cypriot sites along with three others from Cyprus form the core of my PhD research. The Syrian site and two sites from Greece also from the Middle Bronze Age will act as out-groups to compare the biological affinities of the Cypriot

Excavations at the Copper-Smelting Workshop of Politiko Phorades

A Bernard Knapp (University of Glasgow)

In June 2000 a joint team from the Universities of Glasgow and Cyprus, under the direction of Professor A Bernard Knapp and Dr Vasiliki Kassianidou, completed the third and final season of excavations at the Late Bronze Age copper-smelting workshop of Politiko *Phorades*. Working in close

collaboration with geomorphologist Professor Jay Noller (Oregon State University), we were able to demonstrate that the smelting workshop was located on an ancient creek bed, in which slag and other metallurgical debris had been dumped.

In direct proximity to the slag heap, we continued to find large fragments of furnace material as well as tuyère fragments. Just north of the slag heap we uncovered a large number of almost complete tuyères and an anthropogenic feature, a stone-lined pit with tuyère fragments. This feature is not a smelting furnace, because we know that the furnaces were made out of clay and were not dug in the ground, but it may still be related somehow to the smelting process (for example a tapping pit). The discovery of a patch of heat-affected clay near this feature suggests that this was indeed once a working surface.

By far the most impressive finds from *Phorades* are those related to the smelting activities. We have collected more than 6000 fragments of furnace rims, walls and bases, all made of coarse refractory clay mixed with a large amount of chaff. Some of the fragments are large enough to enable us to estimate the dimensions and form of the furnace, as well as their method of construction. Fingerprint impressions around the bases act as a vivid reminder that these are human artefacts.

Besides the furnaces, we have collected over 600 fragments and 50 almost complete examples of clay tuyères. Most are cylindrical and many are slagged and highly vitrified. One of the best examples has a preserved length of about 30 cm. During the 2000 season, we also discovered an 'elbow' tuyère, a well-known type from other Late Bronze Age sites in Cyprus but one which until now had eluded us. Apart from the cylindrical and elbow tuyères we also have four double tuyères, a type previously unknown in Cyprus.

The furnaces produced metal and slag, and the latter is in fact the most common and characteristic find from *Phorades*: we collected over 20,000 pieces of slag weighing a total of 3.5 tons. The slags from *Phorades* differ in shape from the other known Late Bronze Age slags from Cyprus: they come in the form of large plano-concave cakes, the top surface of which has an estimated diameter of 44 cm and an estimated weight of about 20 kg.

A small piece of matte, a copper-iron sulphide, found during the 1998 season demonstrates that this was the metal being produced. Matte is in fact an intermediate product and therefore usually extremely rare; any matte would have had to undergo further treatment before it could be converted into black copper. The black copper would then have to be refined, probably several times, in order to produce copper metal of the purity found, for example, in the form of the so-called oxhide ingots. The presence of matte indicates that *Phorades* was a primary smelting workshop.

After three seasons of excavations we have recovered an impressive array and quantity of archaeometallurgical finds in direct association with pottery dated to the earliest part of the Late Bronze Age (confirmed by radiocarbon dating). By studying this unique collection of archaeometallurgical finds we should be able to reconstruct the smelting technology of the early-mid second millennium BC (to be described in the final publication). The fact that the site is small (at least based on what has survived) leads us to believe that it may have been but one of several similar workshops spread around

the mining areas of Troodos. Having found the first primary smelting site of the Late Bronze Age we now know what to look for and where to look for similar sites within the Troodos mining districts. We shall do so in our new field project, the Troodos Archaeological Survey Project.

For more information see <<http://www.scspace.ac.uk/phorades/index.htm>>.

Slag Heaps and Tile Trees: Setting up the Troodos Archaeological Survey Project

Michael Given (University of Glasgow)

On the edge of a broad, fertile valley in the northern foothills of the Troodos Mountains in Cyprus, five archaeologists were standing in a field and arguing. From the hillslope just above them the little church of *Panayia Kousouliotissa* looked across the olive groves and barley fields of the valley floor towards the Kargotis river and the mountains beyond. Up above the head of the valley stood Mount Olympus, the highest peak of the Troodos Mountains, while down towards Morphou Bay in the north were the massive spoil heaps of the famous copper mines of Skouriotissa.

What we were arguing about, on that steaming hot day in July 2000, was the precise way in which we should record the number of sherds in the field: five people walking five metres apart; each fieldwalker counting every sherd and collecting one of every shape, ware and decoration; more counts of tile fragments, lithics, and even shotgun cartridges; and a complex, green, and as yet unfinished database form to record not just the artefacts but the field's geomorphology, land use and location. The argument, of course, took longer than the fieldwalking. Such are the delights of a preliminary season of a new archaeological survey project.

Thanks to funding from the CBRL and the Brennan Foundation of New Mexico, USA, the Troodos Archaeological Survey Project held its preliminary season in June-July 2000, with a permit and invaluable logistical support from the Department of Antiquities of Cyprus. The project is co-directed by Michael Given (University of Glasgow), Vasiliki Kassianidou (University of Cyprus), A Bernard Knapp (University of Glasgow) and Sven Van Lokeren (British School at Athens). We also have specialists and participants from Australia, Belgium, Canada, Cyprus, Denmark, England, Germany, Greece, the Netherlands, Scotland and the USA.



*Filling in database forms in the northern Troodos Mountains:
Michael, Eleni, Erin, Kristina*

Although much of our discussion concerned survey units, pottery collection, and the technicalities of intensive fieldwalking, there were a wide range of other approaches and strategies which needed to be set up, experimented with, and finally integrated into some sort of whole. These ranged from standing building survey and sociological interviews to site gridding methods, the registration of aerial photographs, and the thermoluminescence dating of slag heaps. The range of disciplinary methods and approaches that modern archaeological survey uses in its analysis of the landscape is certainly advantageous, but it requires vast amounts of planning, discussion and integration. Hence the need for a preliminary season, and for standing around in fields arguing...

Slag Heaps

How do you deal with an ancient slag heap that is 20 metres high, 50 metres wide, and about 330 metres long? Such was the 'feature' that faced us on the western edge of Skouriotissa copper mines. Immediately opposite the slag heap is the San Martin camp of the United Nations' Argentinian contingent, who helpfully provided an escort whenever we were working close to the Buffer Zone immediately to the north. In its previous lives the UN camp had been the headquarters of the Cyprus Mines Corporation and, before then, the monastery of the aptly-named *Panayia Skouriotissa*, 'Our Lady of the Slag Heap'.

The slag heap would have been easier if, as is usually assumed with slag heaps, it had been all the same. When our archaeometallurgist Vasiliki Kassianidou examined it more closely, however, she found that there were layers of crushed ore, gossan, pure earth, and slag fragments of different size, as well as possible workshop floors from the copper smelting, and deposits of charcoal, furnace lining and other highly informative debris from the smelting process. There was even enough stratified pottery so that Kristina Winther Jacobsen, our Hellenistic/Roman pottery specialist, could date the lower layers (all we could reach) to the Late Roman period (c. AD 300-750).

Drawing sketch plans and sketch sections was relatively easy. Deciding how we should record and sample the layers in detail next season was considerably more difficult. The sections were up to 20 metres high, carved out by bulldozers and diggers which had removed some of the slag for road metalling in the mid-20th century. The exposed sections were therefore crumbly, unstable, and frequently overhanging, with the evident likelihood that several thousand tons of slag were about to collapse on any intrepid (or foolish) archaeometallurgist. Health and Safety factors leapt to the fore, and suggestions ranged from photogrammetry and borrowing a cherry-picker, to binoculars and an Electronic Distance Measurer. Plans for next season are currently based on metric photography and an EDM, but we are also assiduously keeping our eyes open for a friendly cherry-picker driver.

Tile Trees?

There are many different ways in which sherds and other artefacts get into fields, nearly all of which cause headaches for survey archaeologists. Ideally, they come from a settlement or ruined structure which is buried immediately beneath them. In undisturbed ground they might even still lie where they were originally deposited. In such cases, the survey

archaeologist merely needs to map where they lie, and the resulting map is also a map of settlements and other sites. In the real world, however, sherds have legs, and are capable of astonishing feats of travel and endurance. They can be eroded down a slope; they can be covered up by deposited sediments; they can be ploughed across a field, or the plough can hide them below the surface; and worst of all, they can be put in manure or dug up with a load of soil, and then dumped in an entirely different place to where they had originally been deposited,

To some extent it is possible to keep track of these movements, Geomorphological mapping is an essential feature of any archaeological survey, and the maps which our geomorphologist, Jay Noller, is currently preparing of the survey area will indicate where the soil (and any sherds it might contain) has been eroded, and where it has been deposited. The manuring theory can actually be turned to our advantage: wherever there is a very even but low-density spread of pottery from a particular period, there was probably manuring there during that period, with sherds being brought out from the settlements with the manure and spread across the field. That still leaves the problem of ploughing, and to understand better the effect of ploughing on sherd distribution, we started a series of experiments generally referred to as 'planting tile trees'.

To do this we bought two packs of strong and easily identifiable white bathroom tiles, which local builder Panikos Stylianou kindly cut into 5x5 centimetre squares. We then carefully (and laboriously) inscribed individual numbers on each of the resulting 550 miniature tiles. Our local manager, Eleni Papapetrou, and her husband (and our illustrator) Jean Humbert live in the survey area, and they kindly found us two suitable fields which would be ploughed regularly during the year. Across these fields we planted long lines of tiles 50 centimetres apart and just below the surface, marked the ends of the rows with hidden and hopefully indestructible rods, and carefully mapped where each numbered sherd had been 'sown'.

Next season we shall return to the fields to see the fruits of our labour. What proportion of the 550 tiles will be hidden below the surface? How far will they have moved from their original positions? What effect do depth and direction of ploughing and the slope of the field have? And, of course, will any of them have grown?

Conclusion

By the end of our preliminary season we had (almost) resolved the archaeological arguments. In so doing we had written most of our field manual, and our Database Manager Luke Sollars had created twenty data-recording forms after long and patient discussion with the project specialists. It should also be said that we all had a thoroughly enjoyable time, thanks to the good humour of everyone on the team, the excellent food prepared by our cook Annie Evans, and the warmth and hospitality of our friends and neighbours in the villages of Katydhata and Linou. Next summer we will hold our first full field season, to be followed by two more field seasons and a study season. For the results of our fieldwalking, our recording of the slag heaps, and, of course, the success of our tile trees, please watch this space...

For more information see <<http://www.tasp.arts.gla.ac.uk/>>.

CBRL- Publications

Belmont Castle — The Excavation of a Crusader Stronghold in the Kingdom of Jerusalem

By Richard P. Harper and Denys Pringle (British Academy Monographs in Archaeology No 10. Oxford University Press, 2000. ISBN 0-19-727009-3. 261 pages, 81 line drawings, 61 half-tones — £65)

This book represents the final definitive publication of the excavations which were conducted by the British School of Archaeology in Jerusalem on the site of the Crusader castle of Belmont (Suba), in the Judean hills west of Jerusalem, between 1986 and 1989.

Qal'at Ja'bar Pottery — A Study of a Syrian Fortified Site of the Late 11th-14th Centuries

by Cristina Tonghini (British Academy Monographs in Archaeology, No 11. Oxford University Press, 1998. ISBN 0-19-727010-7. 440 pages, 155 line drawings, 103 half-tones — £75)

This book investigates the history and archaeology of Qal'at *Ja'bar*, an important Islamic fortified settlement in the middle Euphrates valley in Syria.

The Architecture of Petra

by Judith McKenzie (British Academy Monographs in Archaeology, No 1. Oxford University Press, 1990. ISBN 0-19-727000-X. 209 pages, 245 plates and 9 maps — £65) sets out to solve one of the long-standing mysteries of the history of Roman art: what is the relationship between the baroque architecture carved out of the pink sandstone at Petra by the Nabataeans and the architectural scenes of the wall-paintings of Pompeii in Italy?

Excavations in Jerusalem 1961-1976

II. The Iron Age Extramural Quarter on the South-East Hill

by H J Franken and M L Steiner (British Academy Monographs in Archaeology, No 2. Oxford University Press, 1990. ISBN 0-19-727001-8 — £35)

Studies on Roman and Islamic Amman

by A Northedge (Vol 1: History, Site and Architecture. British Academy Monographs in Archaeology, No 3. Oxford University Press, 1992. ISBN 0-19-727002-6. 232 pages, 177 figures, 80 plates — £65) is dedicated to the memory of Crystal Bennett, the founder of the BIAAH, and reports upon the Jordanian-British excavations which she conducted on the Citadel Hill at Amman from 1975.

Excavations by K M Kenyon in Jerusalem 1961-1967

IV. The Iron Age Cave Deposits on the South-East Hill and Isolated Burials and Cemeteries Elsewhere

by I Eshel and K Prag (ed) (British Academy Monographs in Archaeology, No 6. Oxford University Press, 1995. ISBN 0-19-727005-0 — £45)

The Islamic Baths of Palestine

by Martin Dow (British Academy Monographs in Archaeology, No 7. Oxford University Press, 1996. ISBN 0-19-727006-9 — £37.50)

Excavations at Tawilan in Southern Jordan

by the late Crystal-M Bennett and Piotr Bienkowski (British Academy Monographs in Archaeology, No 4. Oxford University Press, 1995. ISBN 0-19-727007-7. 350 pages, 293 figures, 30 tables — £60) is the first ever final report on an Iron Age site in southern Jordan, the biblical kingdom of Edom. The book provides a comprehensive analysis of the stratigraphy, ceramics, and other finds, together with an overview of the development and nature of the site.

Upper Zohar — An Early Byzantine Fort in Palestina Tertia: Final Report of the Excavations in 1985-1986

by Richard P Harper, with contributions by Gillian Clark, Tony Grey, Shelia Boardman, Paul Croft, Omri Lernau, David S Reese and Joe Zias (British Academy Monographs in Archaeology, No 9. Oxford University Press, 1996. ISBN 0-19-727008-5 — £52.50)

Mamluk Jerusalem: an Architectural Study

by Michael H Burgoyne with additional research by Donald Richards. Published on behalf of the British School of Archaeology in Jerusalem by the World of Islam Festival Trust, 1987. ISBN 0-905035-33-X — £115. Orders to Scorpion Publishing Ltd, Victorian House, Victoria Road, Buckhurst Hill, Essex IG9 5ES.

The Red Tower (al-Buji al-Ahmar)

Settlement in the Plain of Sharon at the Time of the Crusaders and Mamluks AD 1099-1516

by Denys Pringle. Published by the British School of Archaeology in Jerusalem, 1986. ISBN 0-9500542-6-7 — £17.50.

Excavations at Jericho

by K M Kenyon and T A Holland. Published by the British School of Archaeology in Jerusalem. Vol III: £115; Vol IV: £60; Vol V: £75.

British Academy Monographs in Archaeology are published by Oxford University Press. Please order from your bookseller. In case of difficulty, please contact OUP Distribution Services, Saxon Way West, Corby, Northamptonshire NN18 9ES, tel 01536-741519, fax 01436-746337.

Orders for the Red Tower, Jericho and Studies on Roman and Islamic Amman to Oxbow Books, Park End Place, Oxford OX1 1HN; tel 01865 241249; fax 01865 794449.

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The CBRL usually has funds each year to support research projects in the Levant. Travel grants are also available to help students conduct smaller research projects in the region. Applicants are invited from either British Citizens or those ordinarily resident in the UK. Application forms are available from the CBRL Secretary from the end of August each year and completed forms should be returned no later than 15 November (research grants) and 15 January (travel grants). The CBRL also supports a Joint Partnership Postdoctoral Fellowship. This is awarded every three years and is designed to support a three-year programme of post-doctoral research. The project can be concerned with any aspect of humanities and social sciences research relevant to the countries of the Levant.

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Front cover picture by Carol Palmer: *The 'Roman' track at the entrance to Wadi Burwas. View looking west towards the Wadi Araba.*

Back cover pictures: top — *Middle Bronze Age storage jar from el-Moghraqa Site 1, Gaza.* Centre — *Filling in database forms in the northern Troodos Mountains: Eleni, Erin, Kristina, Michael.* Bottom — *Jerablus Tahtani 2000. Burial T3234 (OPII).*

Picture on spine: *Women on their way to fetch water walking coming over the Wadi Dithneh track, Shara' mountains, southern Jordan.*