

# Aerial Archaeology in Jordan

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Aerial photography grew at a rapid pace in tandem with the development of the aeroplane, and in the Middle East there were significant contributions from a number of countries. In the 1914-18 war the Germans created a Denkmalschutzcommado – a small unit of photographers and archaeologists whose job it was to record and protect archaeological sites from damage by military activities.

In the 1930s, the French Jesuit priest, Père Antoine Poidebard, astonished and delighted the academic world with the publication of his *La trace de Rome dans le désert de Syrie* (Paris, 1934). In the volume of plates, the reader could leaf through page after page of

stunning views of lonely Roman forts, roads and frontier towns, all taken from early biplanes. At a stroke, Poidebard had mapped the frontier of Roman Syria – or at least a palimpsest of successive frontiers. In 1945 he published the results of his wider look at Syria

from the air (*Le Limes de Chalcis*, with R. Mouterde) and in the meantime he had stimulated the interest of the great British orientalist and explorer, Sir Aurel Stein, to do his own survey of Iraq and Transjordan in 1938-39 with the aid of the RAF (finally ➤

Qal'at ar-Rabadh (or Ajlun Castle).

This castle is a particular favorite, not just to fly round but to visit on the ground. It is in a superb location, commanding the view of the valleys around. However, its builders and the reasons for its construction make it a special place. Built in 1184-5 by Izz ad-Din Usama (Saladin's cousin) as a defence against the invading Crusaders, it is a stark reminder of the conflicts of a thousand years ago. It was also a stop-over for the pigeon post which could convey messages from Baghdad to Cairo in 12 hours

قلعة الربيض (قلعة عجلون): مكان مفضل على نحو خاص، ليس فقط للطيران بل للزيارة على الأرض. ولها موقع رائع يسيطر على الوادي من حولها. وعلى أية حال، فإن بناءها والسبب الذي بنيت من أجله يعطيانها أهمية خاصة. بنيت ما بين عامي ١١٨٤ \_ ١١٨٥ من قبل عز الدين عثمان (ابن عم صلاح الدين) كتحصينات ضد الصليبيين، وهي تذكير واضح بصراع ألف سنة خلت. وهي أيضا مكان تقف عنده الطيور التي كانت تنقل الرسائل بين بغداد والقاهرة في سفرة تستغرق ١٢ ساعة.

## Archaeology



Petra. The Royal Tombs with the Urn Tomb in the centre. Petra needs no introduction, one of the most famous sites in the world, and one of the two Jordanian sites to have World Heritage Site status. Being able to visit it by helicopter (as well as on the ground many times) was a real privilege. The narrow gorges which allow access to the main city make a visit particularly striking. Most of the city, with its temples, houses, tombs, a theatre and water management systems were built by the Nabataean Arabs during the two centuries before the Roman annexation in AD 106. It continued to flourish for at least a further five centuries as a Roman city. Its rediscovery by western visitors in the early 19th century was one of the great moments of excitement in an age of exploration.

البتراء: القبور الملكية والقبر المصنوع من الجرار في وسطها. ولا تحتاج البتراء إلى تعريف، فهي من أشهر المواقع في العالم، وواحدة من موقعين أردنيين اختيرا كمواقع تراث عالمي. والتمكن من زيارتها بواسطة الهليكوبتر (وكذلك على الأرض لعدة مرات) هي امتياز فعلي. والشقوق الجبلية التي تنفتح عن هذا المنظر، تجعله مذهشا. وأغلب المدينة، مع معابدها، بيوتها، قبورها، مسرحها، وطريقة توصيل المياه إليها، بنيت من قبل العرب النبطيين في القرنين السابقين على ضم المنطقة من قبل الرومان في ١٠٦ ميلادية. وقد استمرت المدينة قائمة كمدينة رومانية لخمسة قرون. وكان اكتشافها في القرن التاسع عشر من قبل الزوار الغربيين واحدا من أشد اللحظات إثارة في عصر الاستكشافات.

published in 1985 as Sir Aurel Stein's Limes Report, eds S. Gregory and D. Kennedy). But then aerial archaeology across the entire region grounded to a halt after 1945.

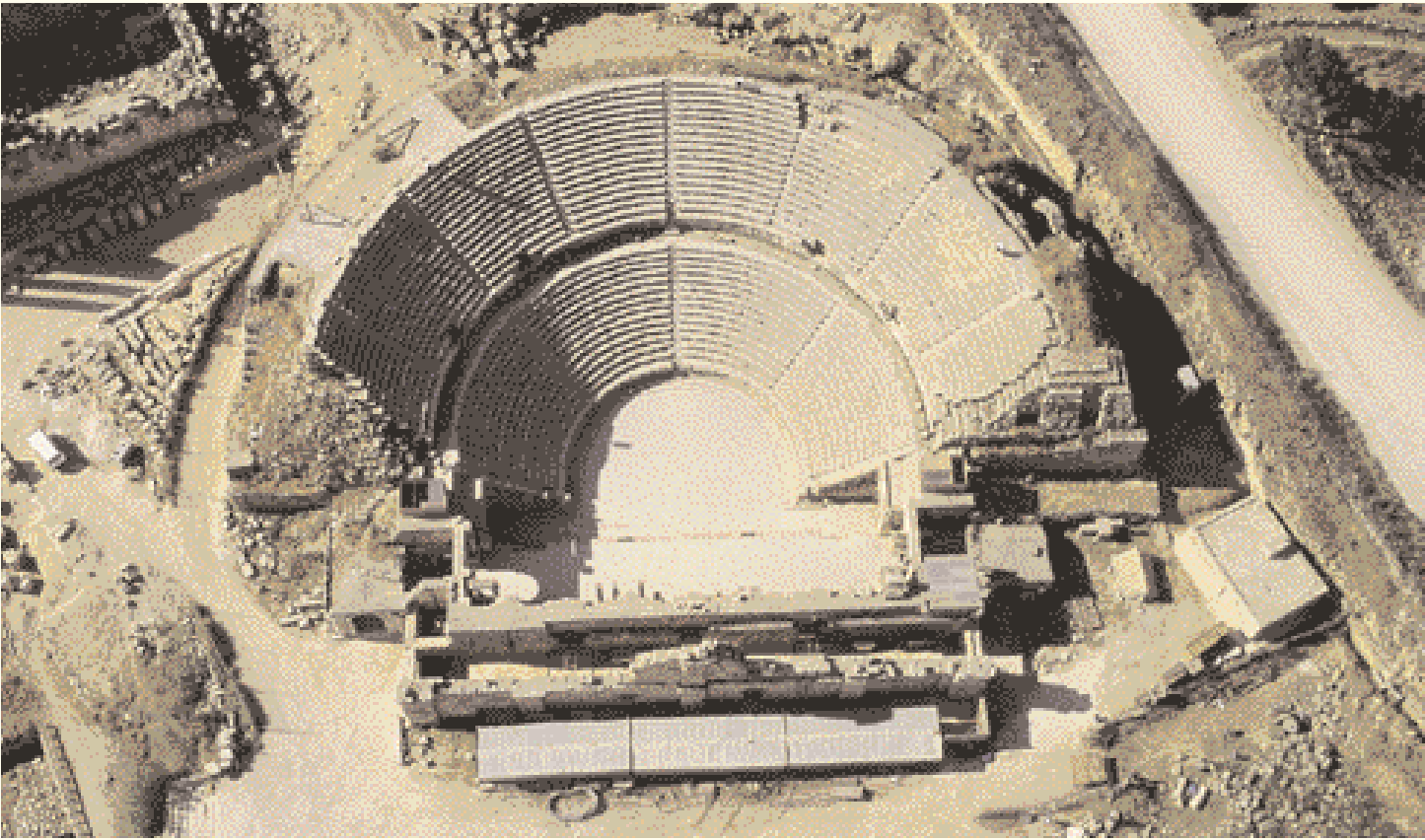
The authors had the privilege of being taught at Manchester University by the late Professor Barri Jones. He had his own copy of Poidebard's book which he generously lent those of us taking classes in aerial archaeology with him. Both of us, moreover, had a keen interest in the archaeology of the Middle East. After numerous false starts our persistent efforts paid off in 1997, with a flight in a Royal Jordanian Air Force helicopter. This began a revival in aerial archaeology in a part of the world where it had been pioneered. In that year, with the support of Prince el-Hassan (brother of the late King Hussein) and Brigadier General Prince Feisal (brother of the current king and now Commander of the Royal Jordanian Air Force (RJAF)) we had the first of a series of annual flights which have continued to this day.

In most years we have been flown in helicopters of the RJAF (Hueys and Super Pumas) and to date we have flown 8 "seasons" and a total of 82 hours (a few of which have been in Cessna (high-wing light aircraft) when one of the authors converted his UK Pilot's Licence to fly in Jordan. (We are grateful to Sun Aviation at Amman for this). We have flown into every corner of the country from the panhandle in the east to the Jordan River, the Syrian frontier to the Gulf of Aqaba. The lasting impressions of observing this wonderful country from the air have been the density and variety of the sites and landscapes; the steep rise up from the Dead Sea (the lowest point on earth) to the deeply gorged limestone plateaux make a sharp contrast to the large areas of desert and the more rolling Mediterranean landscapes of the north. More surprisingly is the threat to the sites, often in remote areas; the bulldozer has penetrated everywhere and Jordan is a fast developing country, so our work may be recording sites for the first and last time.

Sites of every kind and period have been photographed and we now have several thousand images recorded on colour slide film, black and white and colour print and on both 35 mm and medium format. In 2003 we were able to add some footage taken on ➤ ■



## Archaeology



### Jarash (ancient Gerasa). The South Theatre

This famous Roman city is one of the best-preserved Roman cities anywhere. The image of the restored South Theatre – one of three theatres and a circus at the site – shows how well the ancient Roman remains have been preserved. The site was abandoned before the 12th century and not re-occupied until the arrival of Circassians settlers in the nineteenth century. It is now one of the major attractions for visitors to Jordan, less than an hour's drive north from Amman in a delightful location highland.

جرش: المسرح الجنوبي: وهي المدينة الرومانية الشهيرة وواحدة من أفضل المدن الرومانية التي ما تزال قائمة في أي مكان من العالم. وصورة المسرح الجنوبي، وهو واحد من ثلاث مسارح وسيرك في الموقع، تظهر الحال الجيد الذي تمت فيه حماية هذه الآثار. وهذا الموقع قد ترك خاليا في القرن الثاني عشر ولم يسكن بعد ذلك حتى مجيء الشراكسة الذين سكنوه في القرن التاسع عشر. وهو الآن واحد من أكثر الوجهات الأردنية جذبا للسياح، وهو على مسافة سيطرة ساعة بالسيارة إلى الشمال من عمان في موقع جميل ومرتفع.

a digital video camera. Access to the photographs is possible via the authors (in Britain or Australia) and in Amman via the Council for British Research in the Levant (CBRL) and the Department of Antiquities and in London through the Palestine Exploration Fund.

Initially the objective was simply to record some 200 of the better-known sites representative of every period from prehistoric "kites" to Ottoman Pilgrim forts. That has remained an objective every year as we enlarge the list of sites for recording. We have also expanded our aims, however, to experimenting with the technique in terms of seasons and times for flying, systematic exploration of precise areas simply looking for sites, monitoring of sites or areas under threat and – in conjunction with old vertical coverage – mapping of specific features. One objective was always to integrate the archaeological research with the needs of a small developing country. The Nabataean

city of Petra and the Roman Decapolis city of Jarash are well-known but Jordan has much more to offer in its remarkable cultural heritage. And how better to present that treasure house of material than through colour counterparts of the images with which Poidebard had delighted his readers 70 years ago. The outcome – after a series of academic and popularizing articles – is our book: *Ancient Jordan from the Air* (CBRL, London, 2004).

The pilots of the RJAF have provided a fantastic service, understanding our needs and planning long and sometimes difficult sorties for the sake of archaeology; all flights have also been training exercises for the junior trainee co-pilots. Many archaeological discoveries have been made, not least the odd Roman fort and a multitude of prehistoric sites and landscapes. Equally we have witnessed the destruction of many by the ubiquitous bulldozer. Olive plantations, experimental farms, quarries

and expanding towns and villages mean that nowhere is safe from the bulldozer, except of course the great gems in the Jordanian archaeological crown, Petra in the south, the Roman Decapolis cities and Crusader castles.

The flying continues. We had an eighth season in May and June 2004. A Workshop on Aerial Archaeology in Amman is planned that would be open to Jordanians and people from neighbouring countries. Hopefully, Jordanian archaeologists will join us in this work and make it a local, sustainable activity. We are now planning a flying season in 2005, building on the results of previous years and exploring a long (low) stone wall, known as the Khatt Shebbib, which runs for over 100 km from an area east of Petra, north and north-eastwards. Although it is a major feature in the landscape it has not been investigated in its entirety and lends itself well to being recorded and mapped from the air. ■