

## SUMMARY OF RESULTS AND PUBLICATIONS

The intellectual and historical milieu in which Glueck was working (in the pre-war years, during the Arab uprising) provided the background to his methodology. New reconstructions of the temple complex, improving on inconsistencies in those published by Glueck in *Deities and Dolphins* (1965) establish the spatial settings of the finds and cultic activities. The studies of the lamps, pottery, and glass provide more precise chronological information that has made it possible to date newly identified sub-phases, and so to track the growth and decline of worship at the temple. More evidence was detected for continuity from the Edomites (the Nabataeans' Iron Age predecessors). In addition, 4th-century use of the site by worshippers, rather than by 'squatters' (as previously assumed), was identified, clarifying the process leading to the cessation of worship and the A.D. 363 earthquake, when evidence was trapped.

The results were placed in a broader context of Nabataean religious practice and iconography. The design of the temple complex, which is unlike other Nabataean sanctuaries, was found to be most closely related to an Edomite forerunner, Horvat Qitmit, where similar types of offerings also survived. That the main god and goddess at Khirbet et-Tannur were worshipped through cult statues in figured form refutes the commonly held assumption that the Nabataeans, like their Jewish neighbours, had a prohibition against the representation of figures. Furthermore, the Nabataeans' nuanced understanding of figured sculpture is revealed by their sophisticated combinations of attributes of a variety of deities, and of personifications, including those of the Grain and Fish Goddesses now known to represent signs of the zodiac (Virgo and the personification of Pisces, rather than aspects of the goddess Atargatis), as discovered in the related temple at Khirbet edh-Dharih. These busts complement the well-known zodiac ring from the temple, whose two halves are in the Cincinnati Art Museum and the Jordan Museum, Amman.

Glueck assumed that the numerous busts decorating the Khirbet et-Tannur temple represented an eclectic mixture of eastern and western deities. However, this new study has determined the original location of its extensive architectural sculptures, revealing that these formed a cohesive decorative programme, reflecting the sanctuary's local religious role. It was focussed around a main god and goddess, and the heavenly bodies, which controlled seasonal rains and thus agricultural abundance. Aspects of the Egyptian god Serapis were detected in the cult statue of the god, in addition to Hadad and Zeus, previously identified. The goddess, whose attributes were found to include those of the Egyptian Isis, was apparently the supreme Nabataean goddess Allat (consort of the Nabataean god Dushara), rather than Syrian Atargatis. Reflecting her roles, the goddess was also represented as a unique version of Tyche (the goddess of Good Fortune) and as the goddess of the local spring in the famous Vegetation Goddess panel (featured in the new Jordan Museum in Amman).

The iconoclastic damage to the sculptures of Khirbet et-Tannur was examined for the first time. The re-evaluation of the phases made it possible to distinguish those sculptures which were buried in the AD 363 earthquake and those left exposed. Unlike the latter, those buried were not defaced, indicating that such damage was not done by the Nabataeans, but rather after AD 363. Analysis of the similar damage to sculptures at Petra, in the light of excavated evidence, revealed that, contrary to what some scholars had suggested, iconoclastic damage there also was not done under Nabataean rule, but later, in about the 8th century, as in Khirbet Dharih.

Edited versions of Glueck's excavation records, including his annotated excavation diary, were prepared for volume 2 of the report, in which they are followed by the specialist reports on the non-architectural finds. S. Witcher Kansa demonstrated that the animal bones include burnt offerings, such as cattle presented on the main altar, as well as sheep and goat. W. Wetterstrom (Harvard) identified not only

species of carbonised grains in proportions indicative of their role as offerings, but also, surprisingly, discovered remains of burnt offering cakes. Examination of the corpus of pottery vessels by S. Schmid (Berlin) revealed that the types present were selected for ritual use and associated banqueting. These meals were accompanied by much drinking, as also evident from the glass beakers identified by M. O’Hea (Adelaide). Analysis of the lamps by D. Barrett (Harvard) suggested that the two most common Nabataean types (which are absent) were only used in domestic contexts. Others were made specifically for night-time rituals, which were also suggested the zodiac and other iconography. Chemical analysis of the glassware by N. Schibille (Oxford) and P. Degryse (Leuven) revealed that it was manufactured locally, largely with recycled glass, unlike in the metropolis of Petra. Re-examination of the inscriptions by J. Healey (Manchester) indicated a local focus, along with worship of the Edomite god Qos. On the other hand, A. Reyes found that the incense altars suggest pilgrims also came from further afield. Microstructural analysis of the iron door hinge by Brian Gilmour (Oxford) revealed that it is an exceptionally early example of ultra-high carbon steel (like that later used for Damascene swords), reflecting the use of expensive resources, when necessary, at what was clearly an important regional sanctuary.

## PUBLICATIONS

- J. McKenzie, “The Development of Nabataean Sculpture at Petra and Khirbet Tannur”, *Palestine Exploration Quarterly*, 1988, 81-107. [includes list of sculpture found at Petra until 1988, but the observations on the chronology and phases of Khirbet et-Tannur are out of date.]
- J. McKenzie, “Keys from Egypt and the East: Observations on Nabataean Culture in the Light of Recent Discoveries”, *Bulletin of the American Schools of Oriental Research*, 324, 2001, 97-112.
- J. McKenzie, S. Gibson and A. T. Reyes, “Reconstruction of the Nabataean Temple Complex at Khirbet et-Tannur, Jordan”, *Palestine Exploration Quarterly*, 134, 2002, 44-83.
- J. McKenzie, A. T. Reyes and S. Gibson, “Khirbat at-Tannur in the ASOR Nelson Glueck Archive and the Reconstruction of the Temple”, *Annual of the Department of Antiquities of Jordan*, 46, 2002, 451-476.
- J. McKenzie, “Carvings in the Desert: the Sculpture of Petra and Khirbet et-Tannur”, in *Petra Rediscovered, Lost City of the Nabataeans*, ed. G. Markoe, 169-195 (New York 2003). [useful article on the development of Nabataean sculpture]
- J. McKenzie, A. T. Reyes and S. Gibson, “Khirbet et-Tannur Temple Complex”, *CBRL 2003 Newsletter of the Council for British Research in the Levant*, 12-13.
- J. McKenzie, “Das Heiligtum von Khirbet et-Tannur und seine Skulpturen”, *Begleitbuch zur Ausstellung “Petra – Wunder in der Wüste. Auf den Spuren von J. L. Burckhardt alias Scheich Ibrahim”*, eds. E. van der Meijden and S. G. Schmid, 176-181 (Basel 2012) [brief summary].
- J. McKenzie, “Iconoclasm at Petra and other Nabataean Sites”, in *Studies on Nabataean Culture*, Volume 1, eds. N. Khairy and T. Weber, 1-25 (Amman 2013). [in Arabic; based on ch. 5 of *The Nabataean Temple at Khirbet et-Tannur, Jordan, Vol. 1. Architecture and Religion*, but with more photographs of examples at Petra].
- J. McKenzie, A. T. Reyes, and J. A. Greene, “The Context of the Khirbet et-Tannur Zodiac, Jordan”, *ARAM* 24, 2012 [2014] 379-420. [useful summary of the results in the full 2-volume report].
- J. S. McKenzie, J. A. Greene, A. T. Reyes, C. S. Alexander, D. G. Barrett, B. Gilmour, J. F. Healey, M. O’Hea, N. Schibille, S. G. Schmid, W. Wetterstrom, and S. Whitcher Kansa; with contributions by K.

- da Costa, P. Degryse, K. Eremin, S. Gibson, O. Gingerich, and E. Khamis, ***The Nabataean Temple at Khirbet et-Tannur, Jordan, Vol. 1. Architecture and Religion, Final Report on Nelson Glueck's 1937 Excavation***, Annual of the American Schools of Oriental Research 67 (2013) (Manar al-Athar Monograph 1). (368 pages, 455 illustrations).
- J. S. McKenzie, J. A. Greene, A. T. Reyes, C. S. Alexander, D. G. Barrett, B. Gilmour, J. F. Healey, M. O'Hea, N. Schibille, S. G. Schmid, W. Wetterstrom, and S. Whitcher Kansa; with contributions by K. da Costa, P. Degryse, K. Eremin, S. Gibson, O. Gingerich, and E. Khamis, ***The Nabataean Temple at Khirbet et-Tannur, Jordan, Vol. 2. Cultic Offerings, Vessels, and Other Specialist Reports. Final Report on Nelson Glueck's 1937 Excavation***, Annual of the American Schools of Oriental Research 68 (2013) (Manar al-Athar Monograph 2). (349 pages, 152 figures).  
[Reviews of both volumes: e.g., L. Nehmé, *Bryn Mawr Classical Review*, 24 June 2015; L. Tholbecq, *Topoi* 2014, 801-811; D.W. Roller, *American Journal of Archaeology* July 2016]
- M. Whiting and H. Wellman, ***'A Gem of a Small Nabataean Temple': Excavations at Khirbet et-Tannur in Jordan*** (Oxford 2016). [accessible summary of results].