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STRATIGRAPHY AND ABSOLUTE CHRONOLOGY OF JEBEL MOYA: A NOTE ON MICHAEL BRASS' RECENT INTERPRETATION

It would be unusual to write about an archaeological site which had become, without further excavation,¹ the subject of a number of chronological revisions. Yet such is the case for Jebel Moya ('the mountain of water' in Arabic), a vast necropolis lying in the southern part of the Gezira plain between the Blue and White Nile, about 250 km south-south-east of Khartoum. The aim of the present paper is not only to offer some reflections on its chronology, newly outlined by Michael Brass in 2016,² but also to emphasize the problem of site stratigraphy which appears not to be duly appreciated in his monograph.

The story began on 26 January 1911 when a pharmaceutical pioneer and philanthropist Henry Wellcome arrived at Jebel Moya after journeying for several weeks.³ Keenly interested in archaeological activity, he soon recruited local staff and began excavating, which lasted four seasons until the end of April 1914. The result was the discovery of 2883 supposed graves.⁴ Scattered over eight vast areas called either 'trenches' or 'cemeteries', they contained at least 3137 human individuals, more than 30 animals and a wide variety of archaeological material. Traces of various pavings/floorings were

also noted,⁵ implying the long-term maintenance of the necropolis.

Before entering into detail, an explanation must be advanced that the outbreak of the First World War put an end to further fieldwork and that Wellcome himself died in 1936 without returning to Jebel Moya or preparing the excavation report. This enormous task was therefore entrusted to Frank Addison, an archaeologist working in Sudan from 1921,⁶ who published the volume in question in 1949 after gathering and studying the records left by others.

The question has to do with the age to which the cemetery belongs. In this respect, several indices exist. The first is the site stratigraphy according to which the accumulated deposits can be divided into four strata.⁷ They are referred to from top to bottom with the letters A–D, the last one resting on the granite bedrock. This would mean that they were placed on top of each other, thus proving that the uppermost layers were deposited later than the underlying ones. However, the problem is complicated by the fact that the four strata are not uniformly present at Jebel Moya, and indeed, several of them are missing in places. The geological explanation of this phenomenon would be that changes in climatic conditions – especially the rainfall in the surrounding wadis – caused the denudation of the valley floor.⁸ In other words, the current surface does not necessarily reflect, nor is it even entirely different from, the surface of the period when Jebel Moya was a centre of mortuary practices.

The primary task of Addison was therefore to establish a criterion, other than ground surface, on which to estimate the vertical position of the graves. His solution was to adopt the surface of the C strata

1 It should nevertheless be pointed out that Jebel Moya was briefly excavated in the early 1980s by Zoheir Hassan Babiker, who, having obtained hundreds of lithic as well as ceramic materials, already offered an important discussion of possibly Neolithic occupation of the site. See Zoheir Hassan Babiker, *Contribution à l'étude des problèmes du néolithique soudanais à la lumière des nouvelles recherches* (Ph.D. thesis, University of Paris-Sorbonne, 1982), I, p. 147-180, 296-300 and *passim*. See also n. 39 below.

2 M. J. Brass, *Reinterpreting chronology and society at the mortuary complex of Jebel Moya (Sudan)*, CMAA 92 (Oxford, 2016). The monograph is accessible online at <http://archaeopress.com/Archaeopress_Shop/Public/download.asp?id=%7B0D367A52-873B-4664-8701-1FCD9DD874A2%7D>

3 Cf. R. Kirk, 'Sir Henry Wellcome and the Sudan', *SNRec* 37 (1956), p. 84-86.

4 F. Addison, *Jebel Moya, The Wellcome Excavations in the Sudan* 1 (London-New York-Toronto, 1949), I, p. 37.

5 Addison, *Jebel Moya*, I, p. 97-102.

6 J. W. Crowfoot, 'Frank Addison', *Kush* 7 (1959), p. 231.

7 Addison, *Jebel Moya*, I, p. 14-15, 30-34. See also F. Addison, 'The Stratigraphy of Site 100 at Jebel Moya', in R. Mukherjee, C. R. Rao and J. C. Trevor, *The Ancient Inhabitants of Jebel Moya (Sudan)* (Cambridge, 1955), p. 100-102.

8 Addison, *Jebel Moya*, I, p. 22-25.

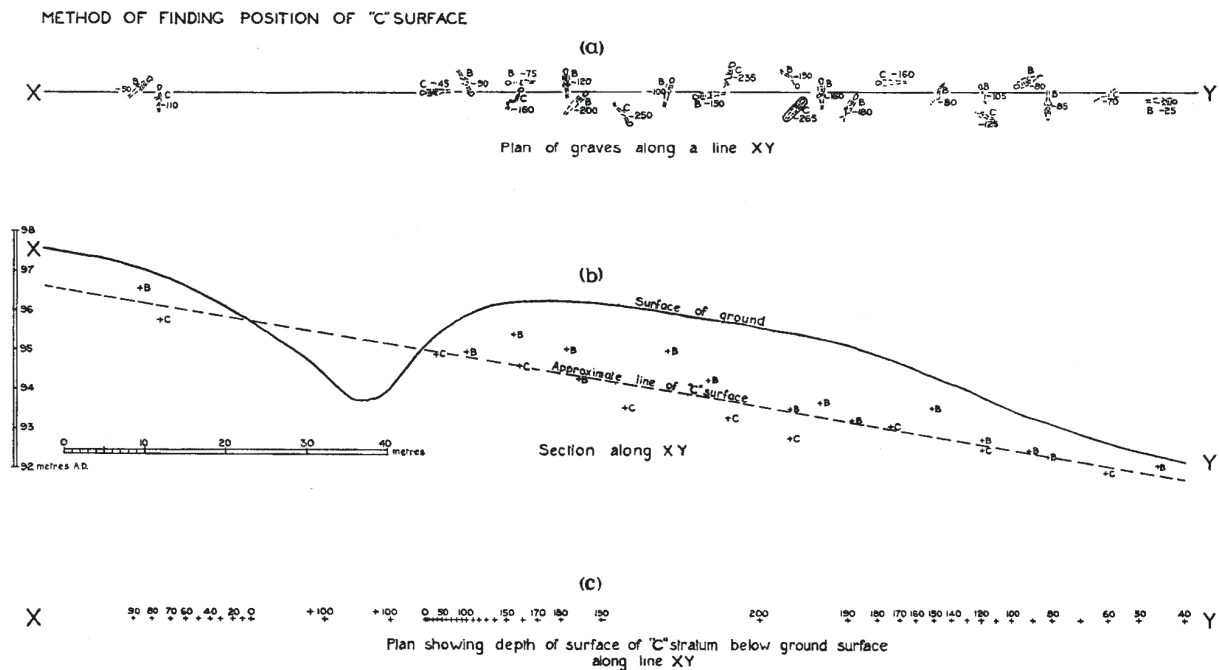


Fig. 1: Mathematical reconstruction of the surface of the C stratum (after Addison, *Jebel Moya*, I, fig. 4)

tum because 'the line of demarcation between the grey B stratum and the black C stratum was fairly clearly defined wherever the strata were exposed'.⁹ Although the mathematical reconstruction thus proposed is largely hypothetical (Fig. 1), Addison was able to understand the otherwise chaotic data in an orderly fashion, identifying the stratigraphy of any given grave in the cemetery.

However, Addison soon realised that his stratigraphic account was conflicted by archaeological

evidence. One such example that clearly illustrates the problem are graves 1577 and 2000.¹⁰ Discovered in a same part of the cemetery, they are respectively situated 90 cm above and 35 cm below the surface of the C stratum. It is therefore quite evident, if one is willing to accept Addison's theory assuming the stratigraphic order of ages, that the former burial postdates the latter. This is however contradicted by their contents. Suspended from the neck of the body in Grave 1577 is a steatite plaque, showing the name of King Men-ka-re on its base and the Amun of Pnubs on its back (Fig. 2).¹¹ A Napatan dating of the object can hardly be doubted given its stylistic similarity to other examples from the same period.¹² In the case of Grave 2000, it contained, among other things, a pottery of very particular design (Fig. 3):¹³ tree-like motifs on the neck, a band of dots on the shoulder and an opposing chevron pattern on the body. The fact that similar jars are widely known in the Meroitic period appears to confirm this dating

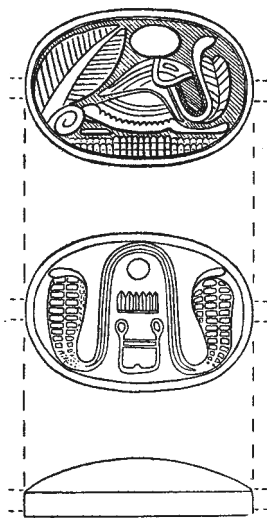


Fig. 2: Steatite plaque from Grave 1577 (after Addison, *Jebel Moya*, I, fig. 64)

⁹ Addison, *Jebel Moya*, I, p. 27.

¹⁰ Addison, *Jebel Moya*, I, p. 88-91; F. Addison, 'Second Thoughts on Jebel Moya', *Kush* 4 (1956), p. 11-12.

¹¹ O.C. 4177. See Addison, *Jebel Moya*, I, p. 117; II, pl. L.2.

¹² E. Kormysheva, 'Amun of Pnubs on the Plaques from Kush', in D. A. Welsby (ed.), *Recent Research in Kushite History and Archaeology: Proceedings of the 8th International Conference for Meroitic Studies, BMOP 131* (London, 1999), p. 285-291; E. Kormysheva, *Gott in seinem Tempel: Lokale Züge und ägyptische Entlehnungen in der geistigen Kultur des Alten Sudan* (Moscow, 2010), p. 65.

¹³ Addison, *Jebel Moya*, I, p. 91, 223; II, pl. CXI.3-4.



of the burial,¹⁴ as admitted by Addison himself.¹⁵ Thus, the archaeological evidence would tend to contradict the stratigraphic record and to indicate the opposite scenario in which a grave of lower stratum was constructed later than a grave of upper stratum. How, then, should one reconcile these two conflicting elements? This question would leave three possible answers:

1. Napatan objects may be intrusions related to looting or other negative impacts;
2. Meroitic objects may be intrusions related to looting or other negative impacts;
3. Addison's stratigraphic account is not reliable in terms of chronological indicators.

Given the considerable degree of uncertainty involved in the site formation process, the question would therefore appear to be a rather subjective matter. Addison was initially inclined to adopt the second option, concluding that Jebel Moya was founded around 1000 BC and abandoned before the beginning of the Meroitic period.¹⁶ In the face of immediate criticism by John Arkell,¹⁷ however, Addison later turned to the opposite of that very scenario:¹⁸ 'My position now is that I think it probable that the occupation of Jebel Moya covered roughly the whole of the Meroitic period, early, middle and late, and that it did not begin until after the Napatan period had ended.'

One important lesson from the preceding observations is that, unfortunately, none of the above-mentioned sources gives unambiguous testimony of the exact chronology of Jebel Moya.¹⁹ A similar conclusion has been reached by Rudolf Gerharz who raised two further problems regarding the site stratigraphy.²⁰ First, he demonstrates a situation in which graves containing metal objects spread over several layers—those of a lower stratum (C/D) in the southern part and those of an upper stratum (B) in the



Fig. 3: Decorated pottery from Grave 2000 (after Addison, *Jebel Moya*, I, fig. 68.1)

northern part (Fig. 4).²¹ This is all the more remarkable that both burials coexist in the middle areas of the sampling distribution (grid square K 9–11 in particular), suggesting a configuration which would best be understood as a sloping terrace (*Geländestufe*).²² It would further seem, as argued by Gerharz,²³ that the metal objects of Jebel Moya find parallels mostly in the early Napatan period. This fact is difficult to reconcile with Addison's stratigraphic account, which would assume a difference of several hundred years between the strata.

The second argument of Gerharz is that at Geili, some 50 km north of Khartoum, Neolithic graves were often situated on a higher level than those of the Meroitic period. The former graves never exceeded 50 cm in depth while the latter tended to be deeper (reaching down to 200 cm), a fact which led the excavator to propose the progress of soil erosion even during the course of site occupation.²⁴ An analogous case at Jebel Moya would be that Grave 1577 of a Napatan date is situated higher than Grave 2000 of

14 D. N. Edwards, 'Early Meroitic Pottery and the creation of an early imperial culture?', in A. Lohwasser and P. Wolf (eds.), *Ein Forscherleben zwischen den Welten: Zum 80. Geburtstag von Steffen Wenig* (Berlin, 2014), p. 56.

15 Addison, 'Second Thoughts on Jebel Moya', p. 11.

16 Addison, *Jebel Moya*, I, p. 230, 251-255.

17 A. J. Arkell, 'Review of Addison, *Jebel Moya*', *Proceedings of the Prehistoric Society* n. s. 20 (1955), p. 126-130.

18 Addison, 'Second Thoughts on Jebel Moya', p. 15.

19 Cf. Zoheir Hassan Babiker, 'New Thoughts on Jebel Moya', *Bulletin de l'Association internationale pour l'étude de la préhistoire égyptienne* 4 (1982), p. 5-8.

20 R. Gerharz, *Jebel Moya, Meroitica* 14 (Berlin, 1994), p. 26-27.

21 For the list of the graves, see Gerharz, *Jebel Moya*, p. 189-192.

22 Gerharz, *Jebel Moya*, p. 26, Abb. 6.

23 Gerharz, *Jebel Moya*, p. 270-271.

24 I. Caneva, *El Geili: The History of a Middle Nile Environment 7000 B.C.-A.D. 1500*, CMAA 29/BAR-IS 424 (Oxford, 1988), p. 192.

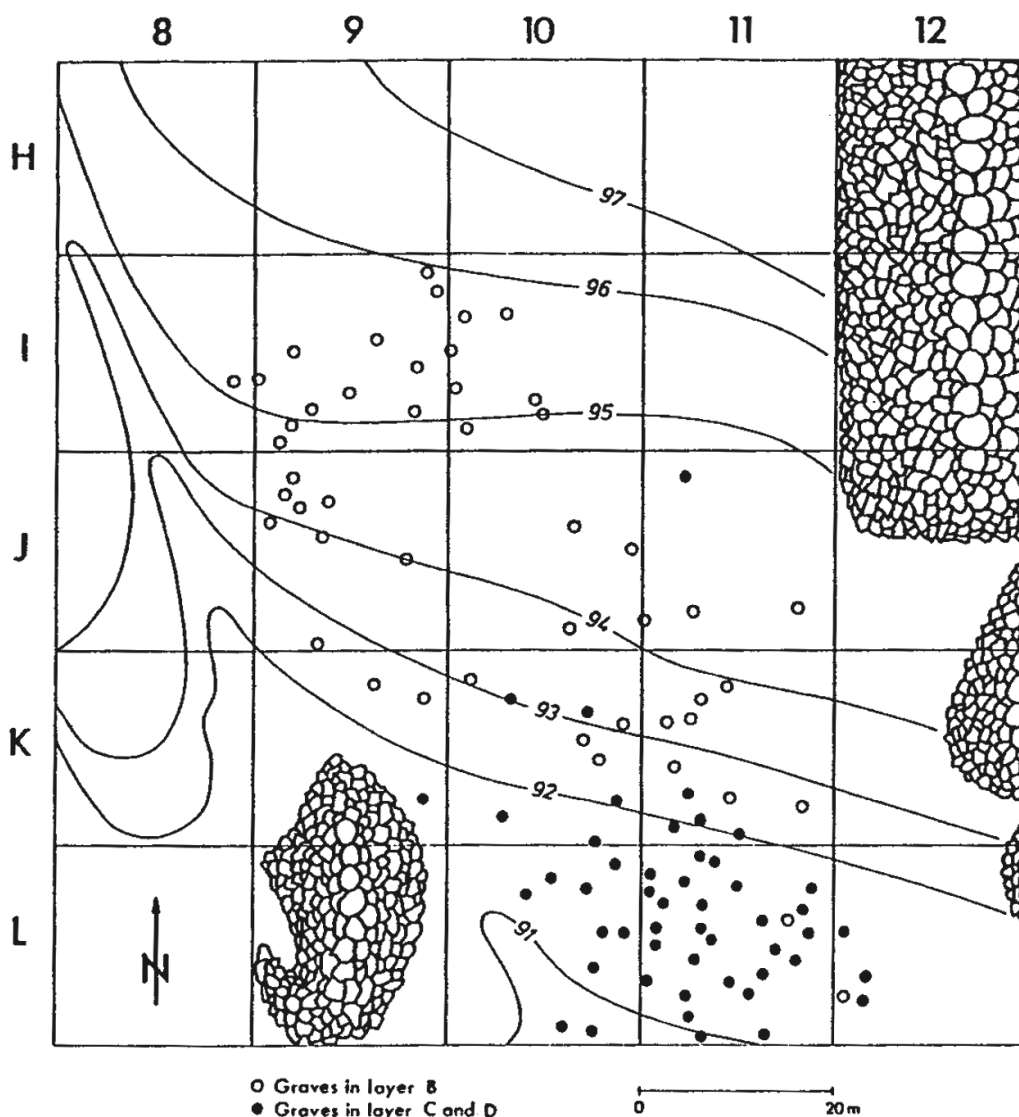


Fig. 4: Distribution and stratigraphy of the graves containing metal objects (after Gerharz, *Jebel Moya*, Abb. 5)

a Meroitic date. The possibility should therefore be seriously considered that in contrast to Addison's explanation, the erosion had already removed many of the sediments of the valley floor and created a rather complex topography. Gerharz concludes:²⁵

„Aus all dem folgt, daß in Jebel Moya die Stratigraphie kein verlässliches Mittel sein kann, um fundplatzübergreifende chronologische Kriterien zu entwickeln, von allem dann nicht, wenn die Gräber miteinander verglichen werden. Vermutlich ist die Stratigraphie Jebel Moyas das Ergebnis sehr unterschiedlicher, ineinander verschränkter geomorphologischer Akkumulations- und Abtragungszyklen, die sicherlich nur zu einem geringen Teil von menschlichen Aktivitäten beeinflusst waren.“

²⁵ Gerharz, *Jebel Moya*, p. 27.

For the reason just discussed, Gerharz abandoned the stratigraphic dating and has instead focused on evidence obtained from the graves. A number of seemingly important factors were then selected for a method called correspondence analysis, potentially revealing that the inhabitants of Jebel Moya can be divided into two distinct classes: those buried with imported objects (*Importgräber*) and those with local objects (*heimische Gräber*).²⁶ What would be more remarkable is that almost all of the *Importgräber* are concentrated in the north-eastern sector,

²⁶ Gerharz, *Jebel Moya*, p. 30-34. For the correspondence analysis, see also A. Lohwasser, *Aspekte der napatanschen Gesellschaft: Archäologisches Inventar und funeräre Praxis im Friedhof von Sanam. Perspektiven einer kulturhistorischen Interpretation*, ÖAWD 67/Contributions to the Archaeology of Egypt, Nubia and the Levant 1 (Vienna, 2012), p. 359-360, 381.



which, when combined with results from computer seriation, would clearly indicate the presence of privileged individuals in the same area of the cemetery.²⁷ Interpreting this as chronological markers, and thereby inferring the emergence of political complexity during the Napatan and Meroitic periods, Gerharz has established two phases after the newly defined Mesolithic occupation (Phase I).²⁸ They are respectively designated Phase II (c.3000–800 BC) and Phase III (c.800 BC–AD 100), the latter being subdivided into the Napatan and Meroitic sequences (IIIa/IIIb). Although the ceramic chronology on which the above model was developed cannot be taken literally,²⁹ a comprehensive catalogue of the Jebel Moya materials and parallels drawn by Gerharz would appear to provide intriguing lines of evidence in this direction.

Remarkably, the chronology outlined by Gerharz has more recently been subject to considerable revision. In an important monograph derived from a Ph.D. thesis submitted to University College London in 2016, Michael Brass has shown the rich opportunities to be gained by combining published data with a thorough compilation of unpublished material. One of the most important achievements is his demonstration of absolute dates of Jebel Moya,³⁰ which was obtained from six pottery sherds kept in the British Museum by means of optically stimulated luminescence (OSL). The dates were then calibrated.³¹ With these forming several distinct ranges, Brass has arrived at the conclusion that two phases of occupation – similar to but chronologically distinct from those of Gerharz – could be discerned at Jebel Moya after the Mesolithic occupation: (1) between the mid-second and the mid-first millennium BC and (2) between the first century BC to the mid-first millennium AD.³²

It was in this chronological setting that Brass has endeavoured to develop a theoretical framework which could be implemented to reinterpret the social structure of a lost community. With his discussion

focusing on the middle and late Meroitic periods, during which ‘the vast majority of burial activity at Jebel Moya occurred’,³³ Brass has scrutinised a greater range of evidence such as ceramic and burial assemblages, habitation remains, skeletal materials and the like. Interestingly, despite the difference in method of analysis, he discerned a similar pattern to that noted by Gerharz—namely, the concentration of richer burials in the north-eastern sector of the cemetery.³⁴ One deviation is nevertheless noteworthy: while Gerharz interprets this pattern as a chronological development, Brass sees it as a co-existence of richer and poorer burials. The notion of a *segmentärehaft* would also appear to have been replaced by a ‘social neighbourhood’.³⁵ In this way, he has attempted to situate Jebel Moya in a wider historical context, hypothesising that:³⁶ ‘mobile pastoral peoples in the southern Gezira took advantage of the southern expansion of the Meroitic state and established communities which engaged in the trade with the State’.

Incorporating multiple theoretical perspectives into the research agendas, Brass has reasonably insisted a late Meroitic as well as possible post-Meroitic occupation of Jebel Moya. The optically stimulated luminescence dating would provide convincing support for his argument. However, this does not necessarily undermine Gerharz’s study because the latter scholar has sufficiently demonstrated the risk of relying on Addison’s stratigraphic account, which does not appear to be seriously questioned in the monograph under discussion. In addition, while Brass would seem to considerably underestimate the Napatan occupation,³⁷ such a claim is difficult to reconcile with the evidence documented by Gerharz.³⁸ Clearly, much more radiocarbon dating is needed to confirm and refine the site chronology.³⁹

27 Gerharz, *Jebel Moya*, p. 36, 112.

28 Gerharz, *Jebel Moya*, p. 45–60, 120–122. For the Phase I, see I. Caneva, ‘Jebel Moya revisited: A settlement of the 5th millennium BC in the middle Nile Basin’, *Antiquity* 65 (1991), p. 262–268.

29 M. H. Zach, ‘Review of Gerharz, *Jebel Moya*’, *BSF* 6 (1996), p. 161. For a revision of the Phase II, see A. Manzo, ‘Remarks on the Jebel Moya Ceramics in the British Museum and Their Cultural Significance’, *SARS-NewsL* 9 (1995), p. 11–19.

30 Brass, *Jebel Moya*, p. 61–63.

31 1985–475 BC, 1680–1165 BC, 1680–790 BC, 70 BC–AD 1005, 40 BC–AD 550, and AD 255–790.

32 Brass, *Jebel Moya*, p. 61–64.

33 Brass, *Jebel Moya*, p. 67.

34 Brass, *Jebel Moya*, p. 103, 129, 131, 133, 153, 158.

35 Gerharz, *Jebel Moya*, p. 41; Brass, *Jebel Moya*, p. 129.

36 Brass, *Jebel Moya*, p. 156.

37 Brass, *Jebel Moya*, p. 65, 67.

38 For further evidence, cf. A. J. Arkell, ‘Varia Sudanica’, *JEA* 36 (1950), p. 40; M. Zach, ‘Ein kuschitisches Motiv in einem etruskischen Grab’, *VarAeg* 5 (1989), p. 161.

39 In 1973, two radiocarbon samples were collected from the test pit dug around the western perimeter of Jebel Moya, yielding a date of 2250 ± 80 BC. More recently, in the early 1980s, a radiocarbon date of 3770 ± 100 BP – which would correspond roughly to 1820 ± 100 BC – was obtained from a marine shell found at a depth of 80 cm below the present surface of the site. See J. D. Clark and A. Stemler, ‘Early domesticated sorghum from Central Sudan’, *Nature* 254 (1975), p. 589, Table 1; Zoheir Hassan Babiker, *Contribution*, I, p. 297; II, p. 377, fig. 15.

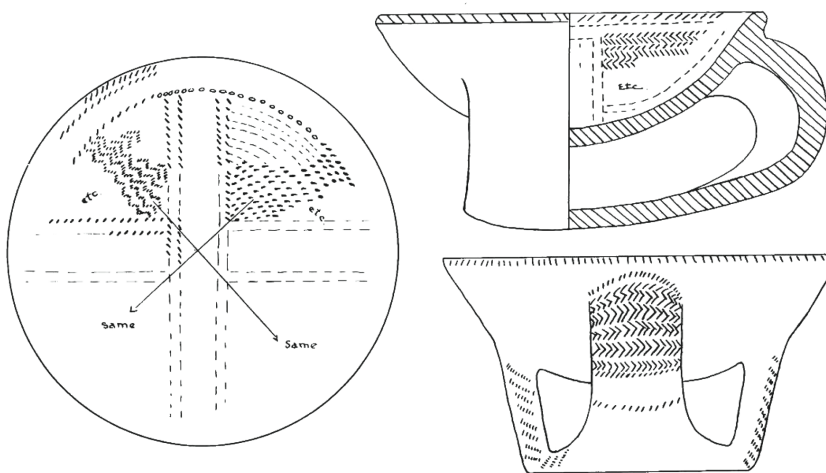


Fig. 5: 'Fruit-dish' from Beg.W.258 at Meroe (after Dunham, *RCK V*, fig. 164.10)

It should also be noted that there is some evidence at Jebel Moya which may possibly be dated to the early Meroitic period or at least before 100 BC. Described in the excavation report as 'a curious object resembling a fruit-dish' (Fig. 5),⁴⁰ they were considered to be stands for large round-bottomed pots analogous to those used in present Sudan. In fact, Michael Zach's more recent study has demonstrated that a number of parallels are attested in the royal cemeteries of Meroe (Beg.S.97, Beg.W.258, 309, 348) and Jebel Barkal (Bar.15) and,⁴¹ most importantly, that they may be reasonably assigned to the royal generations spanning from the third to the second century BC.⁴² Although Zach had been involved in difficulties relating to Jebel Moya,⁴³ where the aforementioned 'fruit-dish' was mostly discovered much nearer the ground surface, it does not necessarily indicate a late dating when one considers the above-mentioned fact that the site formation process would have been much more complex than previously thought.

Finally, it is particularly interesting to mention that Zach has attempted to associate these 'fruit-

dishes' with the ethnic groups living on the periphery of the Island of Meroe, perhaps in the period between the fifth and second century BC.⁴⁴ Viewed from this perspective – which remains a conjecture, as Zach himself admitted – Jebel Moya might have served as some kind of *Rückzugsgebiet* for the groups who had suffered under growing regional conflict in the advent of the Kushite dynasties. Whatever the origin(s) of the ceramics and the population,⁴⁵ however, the impetus for the development of Jebel Moya is

likely to have come as a result of increased interaction with more complex societies formed around Napata or Meroe.⁴⁶ Both Gerharz's and Brass' interpretations are mutually relevant in this very sense, which, joined together, provides an indispensable set of chronological perspectives as well as a rich resource of historical data. With this reserve, I fully share Brass' hope that his important study will set a solid reference point for future studies on south-central Sudan.

ZUSAMMENFASSUNG

Das Ziel des kurzen Beitrages ist nicht nur, einige Gedanken zur kürzlich (2016) neu umrissenen Chronologie des Friedhofes von Jebel Moya zu formulieren, sondern auch das Problem der Stratigraphie dieses Platzes anzusprechen. Es wird argumentiert, dass die wichtigen Erkenntnisse von Rudolf Gerharz mehr Aufmerksamkeit verdienen, die zusammen mit den Ergebnissen von Michael Brass ein unverzichtbares Set von chronologischen Perspektiven wie auch eine reiche Quelle von historischen Daten bilden.

40 Addison, *Jebel Moya*, I, p. 227; II, pls. CV.c, CXIII.6

41 D. Dunham, *Royal Tombs at Meroë and Barkal*, *RCK IV* (Boston, 1957), fig. 20 (No. 16-2-8); D. Dunham, *The West and South Cemeteries at Meroë*, *RCK V* (Boston, 1963), figs. 164.10 (No. 23-2-8), 167.1-4 (Nos. 23-2-66-69), 233.a (No. 23-3-840), L.15-16 (Nos. 23-1-387a-b).

42 M. Zach, 'Gedanken und Reflexionen zu einem meroitischen Keramiktypus: Ein Beitrag zur afrikanischen Komponente der meroitischen Kultur', in E. E. Kormysheva (ed.), *Ancient Egypt and Kush: in memoriam Mikhail A. Korostovtsev* (Moscow, 1993), p. 437-441. For the dating, see also Gerharz, *Jebel Moya*, p. 143; S. Wenig, *Africa in Antiquity: The Arts of Ancient Nubia and the Sudan II. The Catalogue* (Brooklyn, 1978), Cat. No. 262.

43 Zach, 'Gedanken und Reflexionen zu einem meroitischen Keramiktypus', p. 441-442.

44 Zach, 'Gedanken und Reflexionen zu einem meroitischen Keramiktypus', p. 443-444.

45 For a possible link with Aksum, see most recently J. Phillips, 'The Foreign Contacts of Ancient Aksum: New finds and some random thoughts', in Lohwasser and Wolf, *Ein Forscherleben zwischen den Welten*, p. 256.

46 See recently A. Lohwasser, 'Kush and Her Neighbours beyond the Nile Valley', in J. R. Anderson and D. A. Welsby (eds.), *The Fourth Cataract and Beyond: Proceedings of the 12th International Conference for Nubian Studies, BMPES 1* (Leuven-Paris-Walpole, 2014), p. 126-127.