
Mesillot on the Arnon: An Iron Age (Pre-Roman) Road in Moab

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Mesillot on the Arnon: An Iron Age (Pre-Roman) Road in Moab

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The impressive remains of an ancient road in Moab, which Nelson Glueck saw in an aerial photograph and thought to be the Roman road crossing the deep gorge of Wadi Mujib from north to south, was discovered recently in Wadi Nukheila, the southern tributary of Wadi Mujib, about 12 km south-southeast of where Glueck identified it. The method by which the road was constructed, the ceramic evidence from the main structure guarding the crossing of the wadi, the route taken by the road, its settlement context in various periods, and the logic of crossing the gorge at this point rather than somewhere else, led us to the far-reaching suggestion that the road is pre-Roman. The road that crosses Wadi Nukheila linked southern Moab, and especially the important site of Balu, with northern Moab during the Iron Age. We should not exclude the possibility that this ancient road was one of the works of King Mesha of Moab, as cited in his stele "And I made HMSLT B'RNN (the highway in the Arnon)."

INTRODUCTION

Impressive remains of an ancient road can be seen clearly in an aerial photograph taken in 1937 by the British Royal Air Force and published by Nelson Glueck (1939: fig. 43; 1940: fig. 3; 1965: pl. 88; fig. 1) with the caption "Roman Road on north slope of Wadi Mojib."¹ It seems that since the publication of this photograph, no scholarly report has been made of this road, and we assumed that the modern road that crosses the Wadi Mujib (biblical Nahal Arnon) from north to south effaced the remains of this ancient road. During a trip to the region in 2000, we accidentally found the above-mentioned road shown in Glueck's photograph, in a very good

state of preservation.² We were quite surprised by the location and antiquity of this road, and this is the topic of our discussion.

THE PROBLEM OF CROSSING WADI MUJIB (NAHAL ARNON)

In the center of the Moab Plateau (fig. 2) is the deep gorge of Wadi Mujib, which forms a canyon ranging from 250 to 800 m deep that leads eastward from the Dead Sea for about 40 km as the crow flies. To travel along the Moab Plateau, one has to cross the Wadi Mujib.

The Wadi Mujib has three main tributaries. The northern tributary consists of three segments: Wadi Thamad (the upper portion), Wadi Wala (the central portion), and Wadi Heidan (the lower portion). Its confluence with the main riverbed is about 2.5 km

¹The photograph was republished by Kennedy (2000: 135, fig. 14.2) with the caption: "The Via Nova rising from the stream of the Arnon up the southern slope to the plateau beyond the southern rim." Concerning the question of the main road, milestones belonging to the Via Nova Traiana can still be seen on the southern bank near the modern road, but we could not find the ruins shown in Glueck's photograph on the northern bank.

²This article is dedicated to the late Nelson Glueck. Our excursions to the areas he surveyed and described made it possible for us to appreciate fully his devotion to the archaeology of Jordan and the Nabataeans.

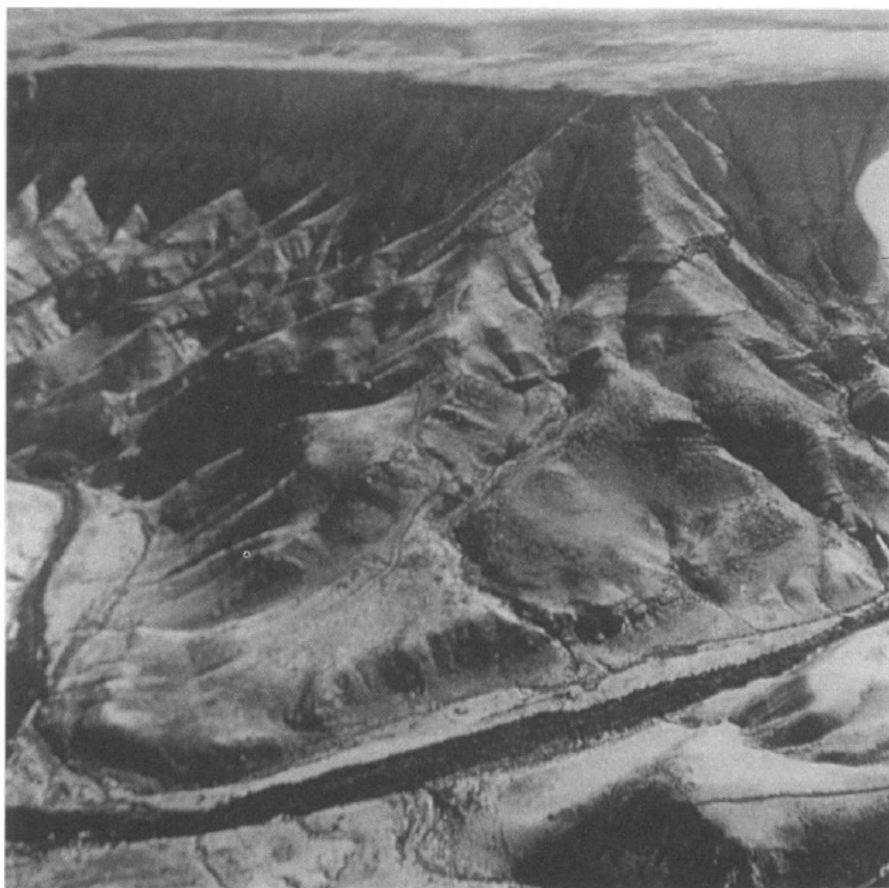


Fig. 1. Royal Air Force photograph of ancient road on Wadi Nukheila (from Glueck 1939: fig 43 and Kennedy 2000: fig. 14:2; reproduced by permission of the Institute of Archaeology, London).

east of the Dead Sea. The main riverbed has been known since the early Muslim period as Wadi Mujib.³ Its eastern segment, also known as Wadi Su'eida, meets a large tributary coming from the south known

variously as Wadi Dabba, Wadi Nukheila, and also Wadi Mujib.

Only to the east, in the desert, can the deep gorge be circumvented, as is done by Darb el-Haj, the Hejaz Railway, and the modern desert road from Amman to Aqaba. This route is far from the permanent Moabite settlements and from water sources. In the settled region of Moab, the Wadi Mujib could only have been crossed within a 3 to 4 km segment between the impassable sandstone canyon in the west and the juncture of the tributaries Nukheila and Su'eida in the east.

Three paths ascend the northern bank of the Wadi Mujib in the narrow area that can potentially be crossed, and each of them has an Iron Age site at the

³The biblical name Arnon remained in use until the Byzantine period. It is mentioned several times in the *Onomasticon* of Eusebius (Klostermann 1966: 10:15; 10:25; 12:18; 76:11; 76:19; 124:13; 126:15). For a discussion of these entries, see S. Timm (1989). The name Arnon also appears on the list of dignitaries in *Notitia Dignitatum Orientis* 37.34, 35. Since the early Muslim period it has been known as Mujib. It is mentioned in the writings of Idrisi and Yakut (le Strange 1890: 55). In his book *Kaṭṭar wa-ferah*, Rabbi Estori Ha-Parhi mentions "Nahal Arnon, which is called el-Mujib" (Luncz edition, p. 632; Hebrew). The name el-Mujib is given as the translation of the biblical name Arnon in the Arabic translation of Isaiah 16:2 and Jeremiah 48:20 (Avishur 1998). In the Arabic version of the Samaritan Pentateuch too, the earliest text-type of which is dated to the 11th or early 12th century, Arnon is also translated as Mujib (Shehadeh 1989–1990). We thank Haseeb Shehadeh, the editor of the translation, who checked the translation of Nahal Arnon in all the manuscripts. The

renaming of the major watercourses in Palestine, such as Arnon, Jabbok, Yarkon, and Qishon, while settlements in the same areas tended to retain their names, deserves a discussion of its own.

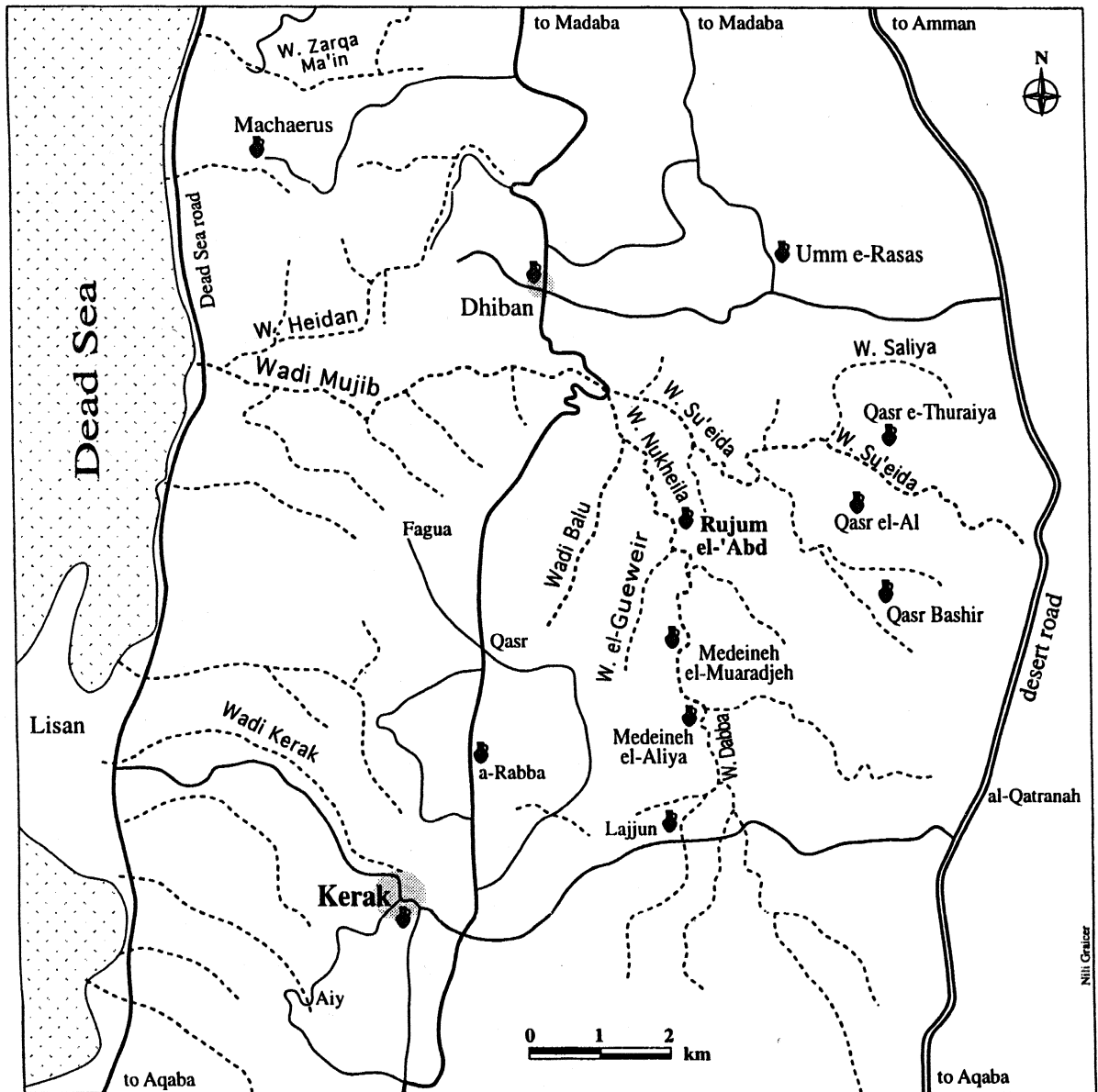


Fig. 2. Central Moab Plateau.

top: Tall Dhiban (Tushingham 1993), where the modern road goes, Aro'er (Olavarri 1993), and Lahun (Homès-Fredericq 1997). The last two are reached by climbing paths; all three sites are marked on figure 3.

THE ROUTE OF THE VIA NOVA TRAIANA IN THE WADI MUJIB AND THE ANCIENT ROADS NEARBY

The Roman road Via Nova Traiana crossed the Wadi Mujib not far from the modern Kerak-Dhiban

road. In the 19th and early 20th centuries, the road—parts of it even with the pavement intact—was clearly visible, as were milestones and ruins of the bridge over the Wadi Mujib. Travelers and scholars who passed through Moab in the 19th century, including Ulrich Jasper Seetzen (1854: 410–11), John Lewis Burckhardt (1822: 363–76), and Henry Baker Tristram (1873: 127–30), described remains of the route. Particularly noteworthy is the description given by Charles Leonard Irby and James Mangles (1823: 142–43), who crossed the Wadi Mujib in 1818 and

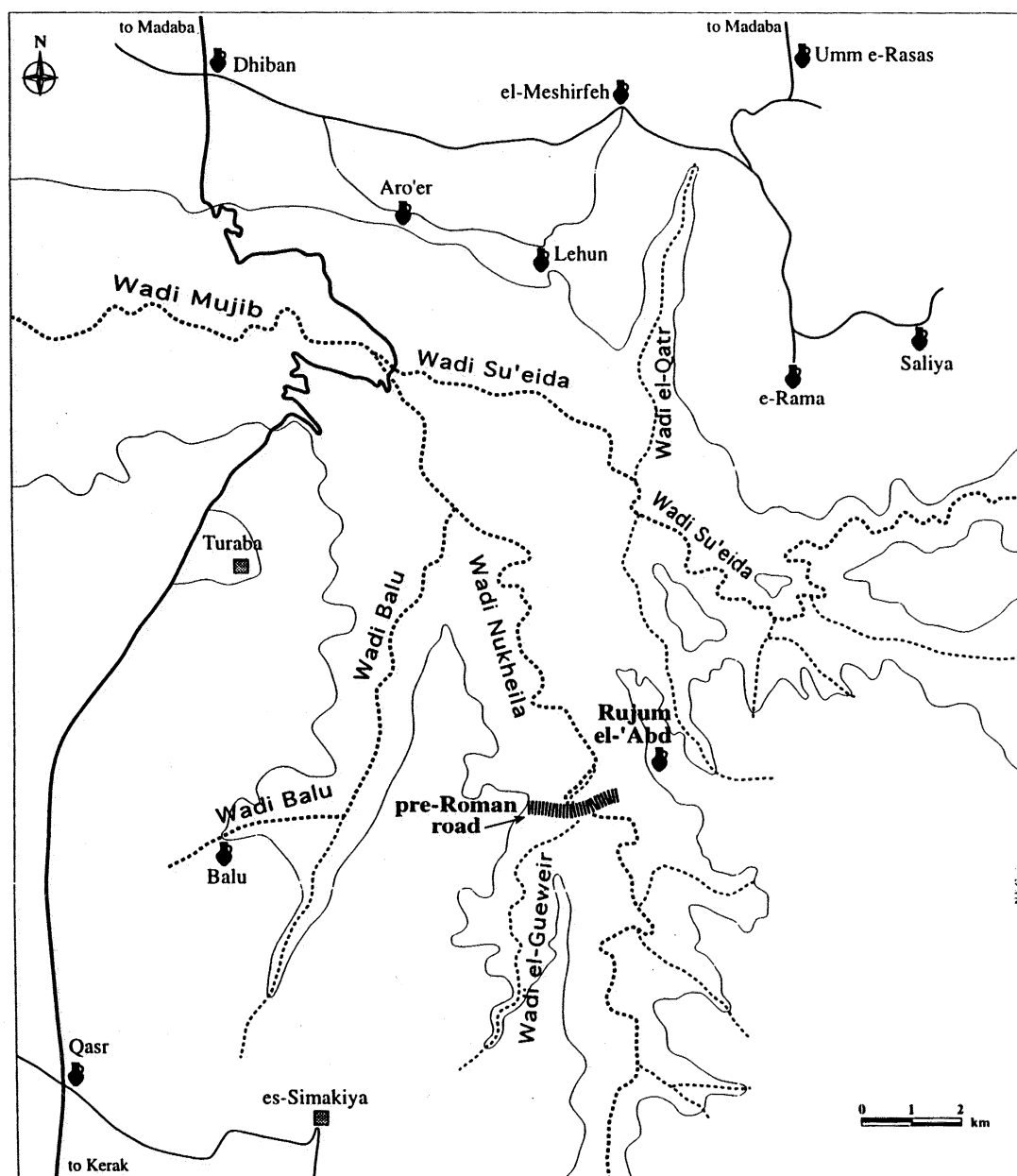


Fig. 3. Upper Wadi Mujib (Nahal Arnon).

reported on the ruins of the Roman road, the mile-stones along it, and an intact arch of the bridge over the Wadi Mujib. According to Irby and Mangles, the arch was 28 feet 9 inches high, and slightly wider than it was high.

The deciphering of the inscriptions on the mile-stones began in the 1890s. It was carried out by Fred-

erick Bliss (1895) and especially by Joseph Germer-Durand (1897), who published transcriptions of all the milestone inscriptions that he found between Petra and Madaba. In their extensive research study *Die Provincia Arabia*, Rudolf Ernst Brünnow and Alfred von Domaszewski (1904: 32–40) summed up the earlier information about the road crossing the

Wadi Mujib, mapped it, and published photographs of the ruins of the bridge over the gorge.⁴

George Adam Smith (1904; 1905) toured the road in 1903 and compared what he saw with the finds and place names cited by his predecessors. He was apparently one of the last scholars to see long segments of the Roman road intact with his own eyes prior to the construction and development activity in the region. Near Kerak, Smith measured the road as being about 25 feet wide; this, he said, was the maximum width of the Roman road between Kerak and Madaba. The data known about the Via Nova Traiana before World War I were compiled by Peter Thomsen (1917: 34–57).

In the survey that he conducted in the 1930s, Glueck (1934: 57) wrote: “We followed the Roman road northward to the point where it commences its twisting descent into the Wadi el-Mojib. It led over a bridge during the Roman period. The foundations of the bridge have been seen and photographed.” Glueck referred readers to Brünnow and Domaszewski, and it seems that personally he did not see any remains of the bridge. In any case, since Glueck we have no report on the remains of the Roman bridge over the Wadi Mujib nor of the road across the wadi. As mentioned above, Glueck included in his study an RAF photograph that supposedly shows the ruins of the road across the Wadi Mujib; as we will show, however, this is not the Via Nova Traiana and does not cross the central gorge of the Wadi Mujib.

No information about the Roman road is included in recently published surveys conducted north or south of the Wadi Mujib: the survey of the entire Kerak Plateau (Miller 1991), the survey focusing on the northwestern corner of the Kerak Plateau (Worschech 1985; Worschech, Knauf, and Rollefson 1985; Worschech, Rosenthal, and Zayadine 1986), or the survey of the Dhiban Plateau conducted in recent years and published only in part (Ji and Attiyat 1997; Ji and Lee 1998; 2000). The initial reports on the survey carried out in the Wadi Mujib in preparation for construction of the dam and the big reservoir (Abu-Shmais and Waheeb 1999) do not mention the Roman road either. Interestingly, none

of the scholars or expeditions that passed through the area after Glueck have discussed the identification of the remains of the impressive road that he showed.

It should be noted that other segments of the Via Nova Traiana have been the subject of detailed research in recent years. The impressive segments south of Wadi el-Hasa are described in studies by David Graf (1995) and Burton MacDonald (1996). Although these studies contain important information, the focus is not on the Wadi Mujib area. The more northern segments of the Via Nova Traiana in northeastern Jordan were studied by David Kennedy (1995; 1997), Thomas Bauzou (1998), and Graf (2000: 804–8). The road and its function in maintaining control are discussed in general terms from time to time; see the discussion and summary by Philip Freeman (1996).

The Roman road that crosses the Wadi Mujib may have been built on top of an older road: the biblical “King’s Highway.” This was Glueck’s opinion (Glueck 1940: 15); others such as Van Zyl (1960: 60) and Carroll (1992) apparently agree. In contrast, Andrew Dearman (1989a: 192; 1997: 206) maintains that the biblical route crossed the Wadi Mujib farther east. In his opinion, the road went from Balu, about 3 km east of where the Roman road would later be built, toward Aro’er or Lehun and not Dhiban. Other scholars who have focused on Moab (Miller 1989a: 594; Olivier 1989: 174; Worschech 1990: 111–14; Mattingly 1996: 95) also argue in favor of an eastern route and note that from Balu the road descended through Wadi Balu to the juncture of the wadis Nukheila and Su’eida and from there ascended to Aro’er. Denyse Homès-Fredericq (1992: 200; 1997: 15), who excavated Lehun, argues that the shortest route from Balu to the northern Moab Plateau is through Lehun, and that, she believes, was the path of the ancient road.

There is also another north-south crossing between this section of the Wadi Mujib and the desert road in the east. This spot, located about 20 km east of the Via Nova Traiana, crosses Wadi Su’eida about 3 km south of the Roman fortress of Qasr e-Thuraiya. This has been mentioned by several scholars as the route of the Roman road linking the Limes Arabicus fortresses. Graf (1997: 276–77, 280–81) disputes the idea that such a road existed and maintains that there was no road there. Recently, David Ben-Gad Hachohen (2000a; 2000b) discovered definite remains of this Roman road north of the Wadi Su’eida crossing.

⁴For a photograph of the ruins of the bridge, see pp. 36–37. For another photograph of the ruins of the bridge, see Musil (1907: 130 fig. 49). Interestingly, in his comprehensive book on this region, Musil does not discuss in detail the segment of the Roman road that crosses the Wadi Mujib.

DISCOVERY OF THE ROAD IN GLUECK'S PHOTOGRAPH

In a trip to the upper tributaries of the Wadi Mujib in 2000, east of the King's Highway, we saw clear signs of an unknown ancient road and discovered, to our surprise, that this was the road in Nelson Glueck's photograph. Along the western bank of Wadi Nukheila, there are two fortified Iron Age sites by the name of el-Medeineh (Miller 1989b). North of Medeineh el-Muaradjeh (Olavarri 1983), we took a dirt road in order to look out over the tip of a plateau spur between Wadi Nukheila in the east and Wadi el-Guweir in the west (fig. 3). As we looked toward the western basalt slope of Wadi Nukheila, we noticed definite remains of a winding ancient road descending to the bottom of the riverbed. A glance eastward revealed that the eastern slope, too, had the remains of a road ascending toward the cliff. We noted at the time that the road on the eastern slope reminded us of Glueck's photograph, but only when we took another look at it could we confirm that the lost road was now found. It seems that Glueck had received an aerial photograph of an ancient road from the Wadi Mujib area and identified it erroneously as the Via Nova Traiana that crosses the Wadi Mujib from north to south near the modern road. Instead, it is the road that crosses Wadi Nukheila, the southern tributary of the Wadi Mujib—about 12 km south-southeast of where Glueck identified its location.

When we took another look at Glueck's original photograph, and compared it with our own field photographs and studied the topographical map, we could confirm that the lost road was now found. A large curve in the wadi, from which a ridge descends from the top of the cliff that is seen in Glueck's photograph, and shown also in our figure 4, is not seen at all in the place where the Via Nova Traiana bisects the main valley of the Mujib. Such curves are found only along Wadi Nukheila. The tributaries above the main cliff can also be seen only in the Nukheila, and not in the main Mujib valley to the northwest. At the lower part of Glueck's photograph (fig. 1) there is a tributary entering into the main valley, which only fits the entrance of Wadi el-Guweir into Wadi Nukheila.

In the lower part of our photographs (figs. 4 and 5), modern agricultural terraces can be seen, which were only recently constructed and do not appear in



Fig. 4. The wadi bed clearly seen in this photograph enabled us to compare Glueck's photograph and the new photos.

Glueck's original photograph (fig. 1). The confusion may also be caused by the fact that the valley below these modern terraces was called Wadi Mujib in Glueck's time.

The big valley above the rim on the upper left side on Glueck's photograph (fig. 1) does not fit the topography of the northern (or southern) plateau of the main Mujib, in the area of the Via Nova Traiana crossing. The valley on the upper left side is the eastern tributary—Wadi Su'eida. The topography of the big bend of Wadi Nukheila, and the unique slope above it that does not have a straight cliff on its upper part, fits only our suggested spot.

REMAINS OF THE ANCIENT ROAD

Other than in Glueck's photograph, the road is not mentioned in modern scholarship. Perhaps the reason for the disappearance of this important road from



Fig. 5. Eastern slope of Wadi Nukheila (Upper Arnon) with the heap of stones of Rujum el-'Abd on the skyline and the riverbed of Wadi Nukheila at the bottom. The terraces at the bottom of the photograph, to the right of Glueck's lower part of the road on the east side, are recent additions by the modern, local farmers and therefore do not appear in Glueck's photograph. The remains of Glueck's road can be clearly seen climbing the slope, made of two parallel walls, as also demonstrated in figures 7 and 8.

scholars' view is that the main survey west of Wadi Nukheila—Maxwell Miller's (1991) survey of the Kerak Plateau—went only as far as the cliff line. A survey by Frank Koucky and Thomas Parker (1987) east of Wadi Nukheila also went only up to the eastern cliff line.

The remains of the road will be described below in an east-west direction in the area of the crossing. They begin in the upper basalt portion of the cliff and continue through sandy limestone in the form of a built path (*naqb*) with a supporting wall on the steep side of the slope (fig. 6). The built path was intended to support people walking on it and to prevent the erosion of the route. It is built into the top layer of basalt and continues in the limestone underneath. As the topography becomes gentler, the form of construction changes drastically. Now there are two parallel walls 5 m apart, with the distance between them increasing to 6–8 m farther down. The

walls are essentially large blocks of basalt placed side by side, emphasizing the route. They are not boundary walls; rather, they are arranged in rows. In the lower portion of the slope, quartzolithic blocks were used instead of basalt, and the road was built with prominent curves emphasized by two parallel rows of stone. The wide road is not paved, and it is built on packed dirt rather than a rock foundation. Toward the bottom of the slope is a short segment of a built supporting wall 1.5 m high and about 10 m long. The remains of the road were not preserved at the crossing point or at the lower slopes near the gorge (figs. 4, 5, 7, 8).

The road on the western slope, which has been preserved from the top of the cliff to near the bottom of the gorge, was built between two rows of large basalt stones that form two parallel lines 4.5 m apart. In the steep parts of the slope, the road has turned into a channel along which water flows, and the



Fig. 6. The *naqb* (built path) on the upper part of the eastern slope. Notice the stone supporting wall on the right side of the photograph, facing south.

pavement or foundation of the road can no longer be seen. Basalt blocks have collapsed, blocking parts of the winding road. About a third of the way up, the gradient becomes gentler, and there both lines are preserved well. The road is easily identifiable from the opposite slopes, although the steep part of it is somewhat damaged (fig. 9). No remains of the road were visible west of the top of the western cliff, since it is all cultivated farmland.

RUJUM EL-‘ABD

At the top of the eastern cliff is a huge heap of stones (Rujum el-‘Abd; UTM map reference 77215 47465) discernible from afar and distinctly visible in Glueck’s aerial photograph (figs. 10, 11). The site was surveyed by Koucky (1987: 92) in the 1980s as site number 232 and defined as a fort and enclosure, but he did not mention the road. The heap of stones was preserved to a height of about 8 m; it was 10–11 m long from east to west and 13–14 m long

from north to south. Clearly, the stones are covering a large building, perhaps a fortress or a tower. The construction used large basalt stones measuring 1–2 m in length, which were crudely straightened to make them rectangular. The square building and the heap of stones covering it are located inside a compound with a perimeter wall about 1 m wide that is preserved to a height of 2–3 m in small segments. The construction of the perimeter wall used rounded basalt blocks and not cut stones, as were used in the building itself. The compound measures approximately 45 × 38 m. The eastern wall is semi-circular. Koucky’s survey recorded 94 potsherds, 61 of them (65 percent) from the Iron Age, 14 (15 percent) from the early Roman and Nabataean periods, and 16 (17 percent) from the late Roman and Byzantine periods. It should be noted that Koucky’s survey reported approximately 10 Iron Age towers in the area east of Wadi Nukheila and south of Wadi Su‘eida. All these sites were used later in the Roman and Byzantine periods.



Fig. 7. The road on the lower part of the eastern slope, facing east. Note the two boundary walls.

THE DATING AND PURPOSE OF THE ROAD

At first glance, the wide "Roman" road published by Nelson Glueck appeared to resemble Roman-period roads. Scholars generally accept that ancient built roads that are at least 4 m wide, are bordered by built walls, and have supporting walls and curves date from the Roman period (Aharoni 1979: 43; Dorsey 1991: 14, 28; Beitzel 1992). The Roman period was marked by outstanding road engineering skill and an extensive network of roads, some of which remained in use until the 19th century. Until now, no constructed roads dated to the pre-Roman period have been published.

While we walked along the remains of this ancient road, we were impressed with its great age and felt that it might be a pre-Roman paved road. This far-reaching suggestion is based on several factors:

1. Large stones were placed next to each other to create two continuous parallel lines along the road

edges, but were not constructed as two walls as was done along Roman-period roads (see figs. 7–9).

2. The ceramic evidence indicates that the structure at Rujum el-'Abd, at the top of the path going up the eastern side, dates from the Iron Age. This fortified building dominates the road and is clearly related to it (see figs. 10, 11). The collapsed ruins protrude on the skyline of Glueck's photograph and in our figures 4 and 5).
3. The upper segment of the eastern slope is a *naqb* and not a wide road, due to constraints of the gradient, as in the desert paths up hills in the Judean Desert, the Negev, and Jordan. Such *naqbs* are dated to pre-Roman periods. They are mainly used by beasts of burden to traverse very narrow passes (see fig. 6) in the above-mentioned regions.

An equally significant factor is the route taken by the road, its settlement context in various periods, and the logic of crossing the gorge here rather than somewhere else. As mentioned above, other than the built road that crosses Wadi Nukheila, no



Fig. 8. Another view of the road on the lower part of the eastern slope.

remains of the road have been found. To the west, the road could easily continue southwest toward the Kerak Plateau and possibly reach the large site of Balu (Miller 1991: 41–43; Worschech 1997), which some scholars identify with the biblical Ar of Moab (Miller 1989a: 593–94; Mattingly 1992). To the east the road might have gone in either of two directions. One of them is toward the large Roman fortress of Qasr Bashir (Kennedy 2000: 140–43). A glance at the Roman road system, which is well known today, especially in light of Thomas Parker's research (Parker 1987; 2000), shows that the huge investment that would have been required to cross Wadi Nukheila was unnecessary. Qasr Bashir could have been reached from the Kerak area by a convenient road that crosses the shallow southern portion of Wadi Nukheila near the Roman army camp at Lajjun. From there the road turns northeastward toward Qasr Bashir, continues northward, and crosses Wadi Su'eida near Qasr e-Thuraiya. This road, which may be defined as a military road (*via militaris*), is mentioned by Koucky and Parker; definite segments

of it were found recently by David Ben-Gad Hachen, as noted above. Furthermore, there is a quick, easy route north of the Wadi Mujib that links the Via Nova Traiana with the *via militaris* at Umm e-Rasas. In our opinion, there was no need for a road along this route in the Roman period. This is another consideration in favor of dating the road to an earlier period.

The second possibility is that the road turned east and then went north, descended into a segment of Wadi Su'eida, where water flows year round, and then continued northward toward the village of e-Rama. Several Iron Age sites were found along this route, north of Wadi Su'eida, in a survey of the Dhiban Plateau (Ji and Lee 1998: 558–62). The route provides an alternative to the classic crossing point of the Wadi Mujib, which would have required a descent and ascent in one crossing of about 600 m. Instead of one steep 600 m crossing, the road crosses the gorge of Wadi Nukheila (350 m) and then the gorge of Wadi Su'eida (250 m) in two easier, shallower crossings.



Fig. 9. The two walls of the road on the lower western slope, facing east.

It may be suggested, based on the technological features and the settlement context, that this road is from the Iron Age. The road that crosses Wadi Nukheila linked southern Moab, and especially the important site of Balu, with northern Moab during the Iron Age. We should not discount the possibility that this ancient road was one of the works of King Mesha of Moab: "And I made *HMSLT B'RNN* (the highway in the Arnon)."⁵ This wide, built road dating from the Iron Age illustrates the words of Isaiah

(62:10): "Build up, build up the highway, clear it of stones!"

In connection with our suggestion that this is an Iron Age road, it is worth noting that impressive remains of an ancient road leading to the site of el-Medeineh el-Aliya⁶ were found about 10 km south of the road that crosses Wadi Nukheila. Its visible

⁵Mesha stele, line 26. For a transcription, translation, and interpretation of the inscription, see Dearman (1989b). For more up-to-date literature about the inscription, see Routledge (2000a). All the translations and interpretations mentioned in these sources understand *HMSLT B'RNN* to refer to a road (or roads) that cross the Arnon gorge. For an exceptional suggestion that claims that a *mesilla* is not a built road and that the Mesha inscription may be read as Armon rather than Arnon, see Tidwell (1995; 1996; 1999). On the use of the term Nahal Arnon to include its tributaries, following the biblical phrase "the *nehalim* Arnon" (Num 21:14), see Dearman (1989c: 58).

⁶Another road in Moab that may have been built in the Iron Age is the north-south road east of the Dead Sea in the Wadi Zerqa-Ma'in area. The remains of the road were discovered by the PEF survey, whose members believed that it linked Livias and Machaerous (Conder 1889: 193). Studies by August Strobel (1981; 1997) indicate that the road goes not to Machaerous but to Ataruz (identified with biblical Ataroth), and may have continued south toward Wadi Heidan, the northern tributary of the Wadi Mujib. Above the crossing of the Wadi Zerqa Ma'in gorge and adjacent to the ancient road, fortifications were discovered that, following an archaeological excavation, were dated to the Iron Age. It was even suggested that they be identified with the biblical Zereth-shahar (Wimmer 2000a; 2000b). We hope to go back again to examine this ancient road and the possibility that it, too, should be dated to the Iron Age.



Fig. 10. Rujum el-'Abd, the "heap of stones," from the west. The lower part of the photograph shows what might be the beginning of the roadbed.



Fig. 11. Another view of Rujum el-'Abd from the east. Note the encircling perimeter wall around the ruin.



Fig. 12. Iron Age road at el-Medeineh el-Aliyah, facing north.

width is 3–4 m, and it has a supporting wall made of large stones on the edge of the slope. The site is dated exclusively to the Iron Age; thus the wide built road to the site is evidence that wide roads existed then (figs. 12, 13).

It should be noted that ancient roads tended to be restorations of older routes; thus Roman roads were built on earlier roads. This is why it is so difficult to

prove the existence and use of wide roads in pre-Roman periods. The road across Wadi Nukheila is one of the first examples of an ancient road that does not seem to have been rebuilt in the Roman period. In other words, it represents Iron Age road-building technology, and because there was no significant need, it was not rebuilt by the Nabataeans or the Roman builders.

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Fig. 13. Iron Age road climbing to the hill of el-Medeineh el-Aliyah, facing southeast.

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