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A Milestone Without a Road: A Distance Marker below an Arch of the High Aqueduct to Caesarea

Avner Ecker, Yotam Tepper and Avshalom Karasik[1]

A milestone located in Bet Ḥananya, below one of the arches of the Hadrianic High Aqueduct to Caesarea (Canal B), was subjected to a 3D scan. This technique enabled the reading of the inscription on the milestone and thereby, to date the stone to the period of the dual reign of Emperors Marcus Aurelius and Lucius Verus (161–169 CE). It also became apparent that the stone marked the fourth mile station from Caesarea. This paper suggests that the milestone is *in situ* and marked a segment of the Roman imperial road between Caesarea and the legionary base at Legio. The road was submerged in the fourth century CE when a reservoir was created behind dams built across Naḥal Tanninim.

Keywords: Roman roads, milestones, Latin imperial epigraphy, Caesarea-Legio Roman imperial roads, Shuni-Maiumas, aqueducts

Introduction

A freestanding column erected on a stone block stands beneath the center of one of the arches of the Roman-period High Aqueduct (Canal B) to Caesarea, in present-day Bet Ḥananya. It has long been identified as a milestone (Roll 1996:554–556; Roll 2011:240; Tepper 2011:258, 268–269; Porath and 'Ad 2015:121, n. 30). The inscription on the milestone was considered mostly illegible, due to the weathered and heavily chipped condition of the stone and the fact that it was covered with travertine. Only the letter *delta*—the number four—was

[1] Dr. Avner Ecker, Martin (Szus) Department of Israel Studies and Archaeology, Bar Ilan University; Dr. Yotam Tepper and Dr. Avshalom Karasik, Israel Antiquities Authority.

Fig. 1. The milestone under the arch of Canal B.

visible just above its molded base (Fig. 1). A 3D scan of the column has now rendered a considerable part of the inscription legible.[2]

The scanning of the column was conducted in the field with a high-resolution handheld 3D laser scanner (a Creaform HandySCAN 700). The scanning procedure required positioning

[2] This study was conceived by Avner Ecker and Yotam Tepper, who also analyzed the results of the 3D scanning, while Avshalom Karasik scanned the milestone and enhanced the legibility of the inscription. The scanning was accomplished on behalf of the National Laboratory for 3D Documentation and Research in Archaeology of the Israel Antiquities Authority (see Karasik et al. 2014). Field photographs were taken by Avner Ecker and Yotam Tepper, and the 3D projections with the identification and tracing of letters in the inscription were produced in collaboration between Avner Ecker and Avshalom Karasik. Many thanks are due to Sapir ʻAd, for assistance in preparing the map of the Roman-period roads and aqueducts (see Fig. 10). We further thank Uzi ʻAd, for our fruitful discussions with him and for sharing with us information from his excavations. A useful discussion on Roman roads and milestones was also conducted with Guy Stiebel. Finally, we thank Doron Ben Ami, Head of the IAA Central District, for supporting the project; Elie Haddad, for his help in the field during scanning; and the two anonymous readers, for their helpful comments. We would like to add a special thanks to Leah Di Segni for some last minute important corrections to this paper.

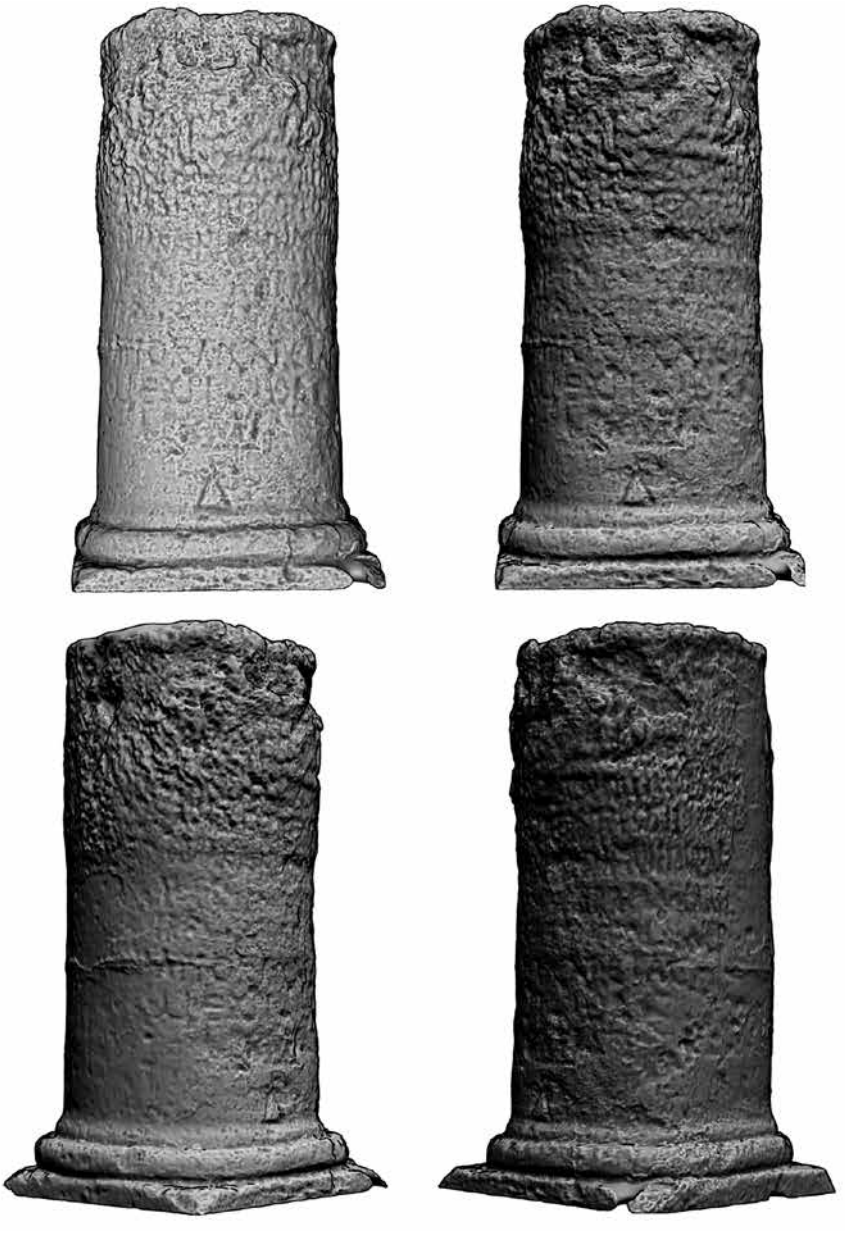

Fig. 2. A 3D model of the milestone, shown in four different brightness levels.

circular, self-bonding and retro-reflective targets (each c. 11 mm diam.) on the object, allowing its fast, automated and accurate registration through triangulation of the targets in real time (i.e., resection in space). The final product of the scanning is a triangulated mesh model with a resolution of 0.2 mm and point-accuracy of 0.05 mm.

The computer program DOR (see Gilboa et al. 2013) was utilized to accentuate surface topography in the scanned model, to allow detecting letters that could not be observed with the naked eye (Fig. 2). The inscription was deciphered by studying a full virtual 3D model of the milestone and a composite photograph consisting of twelve views of the stone from

Fig. 3. Workflow of identifying the letters and reconstructing the inscription from the 3D model of the milestone, shown by twelve successive steps—from top left to bottom right.

different angles. These models were viewed in Adobe Photoshop 2022 and in a Microsoft 3D Viewer application, in which the letters were individually discerned by altering lighting angles and adjusting color filters. Each suspected incised letter was digitally marked and traced (Fig. 3). The 3D model was then projected onto a plane to allow its seamless inspection without the distortion of the column's curvature (Fig. 4), and the letters were

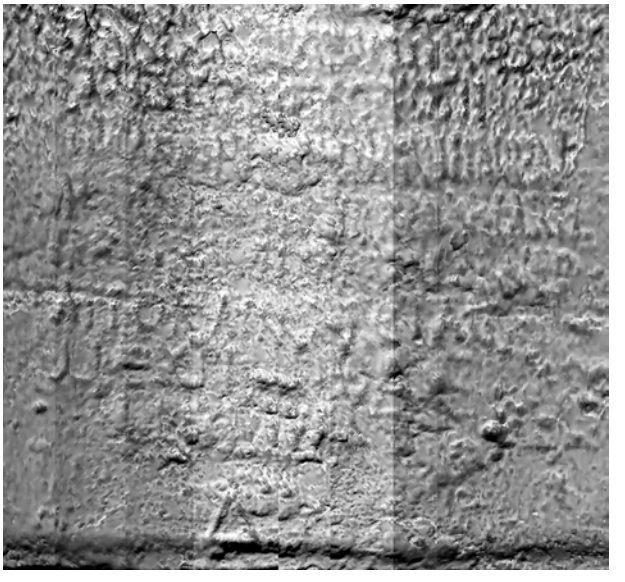

Fig. 4. A projection of the inscription in plane view, obtained from the 3D model of the stone column.

Fig. 5. Tracing of the legible letters on the plane-view projection of the inscription.

again marked on this projection (Fig. 5). Finally, equipped with the knowledge gained by studying the 3D model, the stone was visually inspected once more to confirm the model-based reading (Figs. 6–8). This analysis uncovered a six-line Latin inscription at the top part of the column, below which was a four-line Greek inscription neatly left-adjusted with the

Fig. 6. Closeup view of the Greek part of the inscription.

Fig. 7. Closeup view of the part of the inscription with the letters *PRO* (top left) in the last line of the Latin segment.

Fig. 8. Closeup view of the part of the inscription with the letters *PARTH* in Line 5 and the letters *EP* in Line 6 of the Latin segment.

Latin inscription. A partial reading of the Latin part and an almost complete reading of the Greek were thus made possible. A description of the milestone and a transcription of the inscription are presented below.[3]

The Milestone

The stone column measures 0.52 m in diameter and 1.5 m in height, with a square-shaped molded base (0.6 × 0.6 m, 0.43 m high) affixed to a stylobate pedestal (0.95 × 1.05 m, 0.48 m high). The top of the column stands 33 cm below a keystone within the intrados of the aqueduct's arch, spanning c. 1.5 m.

The Inscriptions

The inscriptions extend along an 80 cm vertical stretch of the top part of the column (Latin: 47 cm; Greek: 33 cm), facing north, toward the exterior of the aqueduct. The discerned letters of the Latin inscription are of variable height within the different words, measuring as follows: 5.5 cm each in the letter combinations *PR* and *PARH*, while the letter *O* is 3.5

[3] The sigla are given following the *CIIP* conventions, with the '+' sign indicating a letter whose traces were discerned but could not be identified.

cm high; most of the Greek letters measure 4.5–5.5 cm, whereas only the letter *delta* at the bottom measures as much as 7 cm. The text reads:

1 [--]?
2 ++[..]+[…]++++++++[--?]
3 ++++[.]++++++++++[--?]
4 +++++++++++++[…--?]
5 ++[.]++[.]++[…]+ṖAṚṬḤ[…?]
6 PROṆ+[.]+[……?]++ḘṚ
7 ΑΠΟΚΑΙCΑΡΕΙΑC
8 ΜΕΧΡΙ(ω)ΔΕ
9 Μ[….]
10 Δ

The Latin Inscription

Only the letters at the end of Line 5 and the beginning of the Line 6 can be read with some clarity. Line 5 probably ends with the letter *H*, most probably part of the ligature *T* and *H*, as the left hasta of the *H* is crossed by a horizontal bar.[4] One can clearly discern the letters *A* and *R*, preceded by the letter P, which was somewhat harder to scrutinize, all forming part of one word. Line 6 begins with the letter combination *PRO*, possibly succeeded by the letter *N*. This letter combination immediately brings to mind the phrase [Traiani] Parth[ici]| pron[epos/epotes…] (great grandson/s of Trajan conqueror of the Parthians), suggesting that the inscription may be from the time of Marcus Aurelius, either from the time when he ruled jointly with Lucius Verus, or later, when he ruled alone.

While the letters *PRO* are clearly identifiable, this is not the case with the following letter *N*. Therefore, to err on the side of caution, we explore and exclude several alternative reconstructions of the inscription. One possibility is that the *N* is in fact a *V*, and in that case we may reconstruct the word pro(vinciae), or it may be the letter *P*, in which case the letters may be part of the title of the governor, [legatus augusti] pro [praetore]. Nevertheless, the former word does not appear on milestones from *provincia Iudaea*/*Palaestina*, and the latter phrase always appears abbreviated as LEG AVG PR PR, occurring only on the three Flavian milestones discovered so far in the province (*AE* 1988: No. 1052; 2003: Nos. 1798, 1810). Moreover, milestones from later periods in *Iudaea*/*Palaestina* do not mention the provincial governor (although this remained the practice in neighboring provinces; Isaac 2015:41). Hence, the two alternative readings of the inscription should be excluded.

Another possibility, involving words from the standard imperial titulature, is pro[co(n) s(ul)]. The title of *proconsul* was used in inscriptions by emperors outside Rome with

[4] No regional parallels of such a ligature are known. Examples can be mentioned from Roman-period France, in Gallia Narbonensis (see, e.g., *AE* 2011: No. 716); for a photograph of that inscription, see https://db.edcs.eu/epigr/bilder.php?s_language=en&bild=$CIL_12_01797.jpg;$ILN-05-01_00316.jpg.

increasing frequency from the time of Trajan, coming into common use by the third century CE (Hurlet 2015:185–186; Kienast, Eck and Heil 2017; Ecker and Cotton 2018–2019:61). The title appears on milestones in *Iudaea*/*Palaestina,* and specifically around Caesarea, from the reigns of Septimius Severus (193–211 CE; Lehmann and Holum 2000: No. 104), Caracalla (211–217 CE; Lehmann and Holum 2000: No. 101) and Gordian II (238 CE; Lehmann and Holum 2000: No. 107).[5] Still, it is almost certain that the letter following the combination *PRO* in the inscription is not a *C* and hence, reconstructing this part of the inscription as pro[consul] is unlikely.

Provided that the reading *PROṆ* is considered, another alternative reconstruction is possible: [Sem]|pron[iano]—part of the full name of Emperor Gordian II; however, the location of this word at the end of the inscription makes this possibility unlikely.

Returning to the initial suggestion to reconstruct this part of the inscription as proṇ[epos]/proṇ[epotes], this offers important clues as to the identity of the emperor/s who were presumably mentioned on the stone. The mention of an imperial great-grandparent on the milestones of *Iudaea*/*Palaestina* is almost unique to the reign of Marcus Aurelius (161–180 CE, who shared the years 161–169 CE with Lucius Verus), with the exception of one case from the reign of Commodus (*AE* 2002: No. 1559); some such inscriptions mention both Marcus Aurelius and Lucius Verus, while others mention only the former. Milestone inscriptions mentioning imperial great grandfathers are more commonly known from the surrounding provinces, for instance Syria, with examples from the reigns of Septimius Severus (*IGLS* I: No. 228) and Caracalla (*IGLS* VI: No. 2918). This was not the common practice throughout most of the Roman period in *Iudaea/Palaestina*, which had its own formulae for milestone inscriptions. As noted by Isaac (1998:55), formulae on milestone inscriptions are the "most rigidly controlled category of official inscriptions." These formulae differed from one province to another, with each province adhering to its formulae over long periods of time.

The most likely series of letters at the beginning of Line 6 of the present inscription, *PRON*, combined with the highly probable reconstruction of the series of letters at the end of Line 5, *PAR(T)H*, strongly suggest its association with the time of Marcus Aurelius and Lucius Verus. The two emperors, being the great grandsons of Trajan, are often mentioned in ancient inscriptions as *Trajani Parthici Pronepotes* (e.g., Lehmann and Holum 2000: No. 99). Hence, there is little doubt in reconstructing the part of the inscription extending through Lines 5–6 as Paṛṭh[ici]| proṇ[epos/epotes].

[5] The search for suitable parallels for the text in the present inscription was aided by the online database Epigraphik-Datenbank Clauss/Slaby, created by Clauss M., Kolb A., Slaby W.A. and Woitas B. (EDCS; https://db.edcs.eu/epigr/epikl_ergebnis.php), which draws its information from Thomsen (1917). Further useful information was obtained from detailed and updated studies, bibliographies and lists of milestones in Palaestina, including an online database created by Kinneret College, *Roman Roads and Milestones in Judaea/Palaestina* (https://milestones.kinneret.ac.il/en/). Consultation was undertaken with a team led by B. Isaac, currently preparing a volume dedicated to milestones in the series *Corpus Inscriptionum Iudaea/Palaestinae*.

All dated milestones from *Palaestina* installed under Marcus Aurelius belong to the year 161/2 CE, during his dual reign with Lucius Verus (Isaac 1998:51–52; 2015:42). A close parallel for the present inscription, in terms of the textual formula and the shape of the stone, was discovered on the Caesarea-Legio Road, near Giv‘at ‘Ada, about 5 km southeast of Caesarea (Roll and Ayalon 1986–1987:156–157; Lehmann and Holum 2000: No. 99; for a description of a segment of that road, see Paz and Paz 2006). Both milestones are undated and may belong to any of the years of the joint reign of the two emperors (161–169 CE).

A noticeable difference between the two inscriptions, the one from Giv‘at ‘Ada and the present example, concerns the number of lines of the Latin section, with seven lines in the former and six in the latter. It is not possible to fit the seven-line text into six lines, given the 16 to 18 letters per line observed on the present milestone. One may suggest several explanations for this discrepancy: (1) our inscription mentions the name of only one emperor, meaning that it belongs to the time during which Marcus Aurelius reigned alone; (2) there was another line at the top of the stone column, which did not survive; (3) the first lines of the Latin text were longer than what was detected with the use of scanning technology.

The first option can be excluded. Provided that one emperor was mentioned in the inscription, his filiation and genealogy would have preceded other titles, and the inscription would end with the emperor’s consulate or other office. The second option, a missing line at the top, is also unlikely as there is no space left for it at the top of the stone column. The third option seems most likely, as the cortex of the stone appears to have chipped off on the right-hand margin of the Latin text. Line 5, which seems to miss three letters at its end, may have been slightly shorter than the preceding lines. Hence, assuming c. 20 letters per line, the use of abbreviated forms of words and that the letter I was joined with the letter preceding or succeeding it, the following reconstruction is proposed (Fig. 9; see also Fig. 1):

[IMPCAESMAVRELIVSANTONIN]
[VSAVGPONTMAXTPXVICOSIII]
[IMPCAESLAVRVERVSAVGTPII]
[COSIIDIVIANTONINIFILDIVIHADRI]
[ANINEPDIVITRAIANI]PARTH[ICI]
PRON[EPDIVINERVAEABN]EP

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	IM	P	C	A	E	S	M	A	V	R	E	LI	V	S	A	N	T	O	NI	N
2	V	S	A	V	G	P	O	N	T	M	A	X	T	P	X	VI	C	O	SI	II
3	IM	P	C	A	E	S	L	A	V	R	V	E	R	V	S	A	V	G	T	PII
4	C	O	S	II	DI	VI	A	N	T	O	NI	NI	FI	L	DI	VI	H	A	D	RI
5	A	NI	N	E	P	DI	VI	T	R	AI	A	NI	**P**	**A**	**R**	**TH**	IC	I		
6	**P**	**R**	**O**	**N**	E	P	DI	VI	N	E	R	V	A	E	A	B	N	**E**	**P**	

Fig. 9. A plausible reconstruction of the entire Latin part of the inscription, assuming 20 letters per line; surviving letters from the inscription are shown in bold font.

The Greek Inscription

The inscription ends with four clear lines in Greek, of a formula well-known from other milestones from the road system near Caesarea:

ΑΠΟΚΑΙCΑΡΕΙΑC
ΜΕΧΡΙΩΔΕ
Μ[--]
Δ

ἀπὸ Καισαρείας| μέχρι ὧδε| μ[είλια] | δ´

Translation: from Caesarea to this point 4 miles.

The Greek text at the bottom of the inscription, together with the shape of the stone, demonstrate without doubt that it is a milestone, lending further credibility to our reconstruction and translation of the inscription as a whole:

1 [Imp(erator) Caes(ar) M. Aurelius Antonin]
2 [us Aug(ustus), pont(ifex) max(imus), t(ribunicia) p(otestate) XVI, co(n)s(ul) III,]
3 [Imp(erator) Caes(ar) L. Aur(elius) V(erus) Aug(ustus) t(ribunicia) p(otestate) II,]
4 [co(n)s(ul) II, divi Antonini fil(ii), divi Hadri]
5 [ani nep(otes), divi Traiani] Parth[ici]
6 pron[ep(otes), divi Nervae abn]ep(otes)
7 ἀπὸ Καισαρείας
8 μέχρι ὧδε
9 μ[είλια]
10 δ´

Translation: Imperator Caesar M. Aurelius Antoninus Augustus, high priest, invested with tribunician power for the 16th time, consul for the third time (and) Imperator Caesar Lucius Aurelius Verus Augustus, invested with tribunician power for the second time, consul for the second time, sons of the deified Antoninus, grandsons of the deified Hadrian, great grandsons of the deified Trajan, conqueror of the Parthians, great-great grandsons of the deified Nerva. (Greek): from Caesarea to this point: 4 miles.

Discussion: 'From Caesarea to This Point'

The presence of the milestone below an arch of the Roman aqueduct to Caesarea (Canal B), lacking a legible inscription, has previously raised questions regarding the kind of infrastructure with which the distance marker was connected, as well as the date and context in which it was erected. Several speculations concerning these questions were made over the years by various scholars, in the absence of knowledge of the contents of the inscription.

Its reconstruction in the present study, aided by high-resolution 3D scanning technology, allows us to reevaluate these issues and offer an interpretation with a more factual basis.

The possibility that the milestone marked a distance along the aqueduct, as suggested by Tepper (2011:268–269), should be considered. The placement of distance markers along aqueducts and other long-running public infrastructure has been documented in the context of the Roman Empire on rare occasions. The most well-known examples are the *cippi* along some of the aqueducts of Rome, which were placed at intervals of approximately 240 feet and sequentially numbered, with the first marker in the series of each of these aqueducts located within the city, where the aqueducts terminated, and the last marker at their source (Mari 1991). However, these distance markers are of a smaller size than milestones, they have no known parallels outside Rome and their use appears to have ceased at the time of Claudius, in the first century CE. The Roman senator Frontinus did not refer to these markers in his descriptions of the aqueducts of Rome, and instead referenced the nearest milestones along adjacent roads (e.g., *De aquaeductu* 1.3, 1.5; Hodge 2002:103–104).

Another relevant example of distance markers is known from the military construction work of the Antonine Wall, where slabs decorated with sculptured relief mark distances in Roman miles and feet (Campbell 2020, and see further references therein). These distances note the length of wall segments built by different military units employed in the wall's construction. As such, these stones did not provide information to the traveler, as milestones did, or to the surveyor, as *cippi* did. The function of these stone markers recalls that of ten inscriptions that were installed into Canal B of the aqueduct to Caesarea, which occur at uneven intervals along the aqueduct and commemorate military detachments from four different units that participated in the construction (Legio II Triana, Legio VI Ferrata, Legio X Fretensis, Legio XXII Deiotariana; *CIIP* II:132; Di Segni 2002:48–51; see also Olami, Sender and Oren 2006: Site 60, Fig. 60.7).[6] Two of the inscriptions occur only 25 m west of the Bet Ḥananya milestone. Interestingly, one distance marker, reported to have been found along the Antonine Wall, had the shape of a milestone rather than a slab ('the stone from Bar Hill'; *RIB*: No. 2312; Campbell 2020:75); however, this marker was never described in detail and has been lost since its discovery, so that its function remains unclear.

The closest parallel for the Bet Ḥananya stone is a distance marker in the shape of a milestone, dated to 75 CE, found near the hippodrome of Antioch. This stone marked the first mile of a major canal that probably connected the two rivers flowing near the city, the Kara-Su and the Orontes (*AE* 1983: No. 927; Berchem 1983; 1985:85–87). Its inscription is

[6] Another inscription commemorating the construction of the aqueduct, or perhaps the individual in charge of the construction, stands at one of the sources of the aqueduct near Ḥorbat 'Eleq (Peleg-Barkat and Tepper 2014:67, 69, Fig. 17; Eck and Kossmann 2019:123–126). Similarly, inscriptions on the stone drums of the syphon passing through Bethlehem, forming part of the High Aqueduct to Jerusalem, refer to the different *centuriae* in charge of the construction of each segment. These inscriptions, however, are not commemorative; they are no more than graffiti that served as a practical record for the division of labor among the construction crews (*CIIP* IV.1: Nos. 3231–2362).

dedicated to Emperor Vespasian.[7] The canal may have been supplied with distance markers because it functioned as a transportation route.

Due to the lack of exact parallels, and as the distance marked on the milestone cannot be accurately correlated with the length of the aqueduct (see n. 7), the milestone considered here is inconclusively connected to the second-century aqueduct Canal B. An alternative possibility is its connection to a Roman imperial road. Porath and ʻAd (2015:121) suggested that this milestone originally stood along a service road following the first-century CE aqueduct known as Canal A, and that the builders of the later Canal B erected one of its arches over the existing stone. The reading and date of the inscription proposed here, assigning the milestone to the second century CE, exclude this reconstruction. Canal B, as attested by ten building inscriptions along its route, was built under Hadrian (*CIIP* II: Nos. 1200–1209; see below). The present milestone was erected in place at least 23 years later.

Roll (1996:553–554; 2011:240–241) raised the possibility that the column may not have been *in situ*, and was transferred to its present position for secondary use from the Roman imperial road leading north from Caesarea to ʻAkko-Ptolemais. However, both Roll (2011: n. 3) and Tepper (2011) more recently noted that the stone column, with the pedestal at the bottom, sits squarely on its leveled stone base and hence, it is *in situ.* The *in situ* location of the stone is also evident from the results of the archaeological excavation conducted at the site (Porath and ʻAd 2015:121, Plan 3: Section 2–2). Moreover, the stone is positioned so that the inscription faces outward from the aqueduct's arch so that it is readily visible, and the distance noted on the stone generally fits with its location at a distance of four

[7] The Latin inscription (following *AE* 1983: No. 927) and its translation are given here in full, due to its importance as a parallel of the inscription from Bet Ḥananya: Imp(erator) / Vespasianus Caesar / Augustus pontif(ex) max(imus) / trib(unicia) pot(estate) VI imp(erator) XII p(ater) p(atriae) co(n)s(ul) VI / desig(natus) VII censor / Imp(erator) Titus Caesar Augusti f(ilius) / pontif(ex) max(imus) trib(unicia) pot(estate) IV / [co(n)s(ul) II]II desig(natus) V censor / [[Domitianus]] Caesar / Augusti f(ilius) co(n)s(ul) III / M(arco) Ulpio Traiano leg(ato) / Aug(usti) pro pr(aetore) Dipotamiae / fluminis ductum millia(!) / passus tria cum pontibus / [pe]r milites legionum IIII / [III Gal]l(icae) IV Scyt(hicae) VI ferr(atae) XVI Flaviae / [ite]m cohortium XX / [item?] Antiochensium / [facien]da(?) curaverunt / m(ille) p(assus) I.

Translation: Imperator Vespasian Caesar Augustus, high priest, vested with the tribunician power for the sixth time, Imperator for the twelfth time, father of the country, consul for the sixth time, designate consul for the seventh time, censor (and) Imperator Titus Caesar son of the Augustus, high priest, vested with the tribunician power for the fourth time, consul for the fourth time, designated consul for the fifth time, censor, (and) Domitian Caesar son of the Augustus consul for the third time, ordered the construction of the canal between the two rivers at the length of three miles with bridges, under Marcus Ulpius Traianus the legate of the Augusti in the rank of pro-praetor, by the soldiers of four legions: the third Gallica, the fourth Scythica, the sixth Ferrata, the fifteenth Flavia, and also (by the soldiers) of twenty cohorts and by the people of Antioch. Mile 1.

miles from the center of ancient Caesarea.[8] Therefore, there is no reason to doubt that the milestone is in its original position.

It is further observed that none of the known Roman roads heading out of Caesarea follow the route of Canal B, where it passes near Bet Ḥananya, making it unlikely that the present stone was in any way associated with these roads (Fig. 10). The road from Caesarea to ʻAkko-Ptolemais ran parallel to Canal B only near Caesarea. Subsequently, as the road continued along the coastline, the course of the aqueduct veered to the east, about one kilometer before the northernmost location to which the course of the road was traced, near the Naḥal Tanninim estuary, just north of Tel Tanninim-Crocodilopolis.

We suggest, then, that the milestone marks a hitherto unknown road section between Caesarea and Shuni-Maiumas, which was part of the Caesarea–Legio imperial road.

The Caesarea-Legio Imperial Roads

Two Roman imperial roads exited Caesarea from its eastern gate toward the legionary base in Legio (Tepper 2002; 2007). The military base was active between the beginning of the second century CE and the beginning of the fourth century CE, when the sixth legion moved to Adru in southern Transjordan, at that time also part of Palaestina (Kennedy and Falahat 2008; Di Segni 2018:248), and the base diminished in size (Tepper 2022a). One road heading east steered southeast and crossed Wadi ʻAra (Fig. 10:B; Tepper 2004); the other crossed the coastal plain toward Shuni-Maiumas (Fig. 10:C), where it met Canal B, followed its course and continued northeast through the Menashe Hills (Tepper 2011).

Tepper (2002; 2007; 2011) and Roll (2011) agree that the reason for the existence of two contemporary routes to Legio, situated at the mouth of Wadi ʻAra, is a result of the establishment of the base for the Roman legion at the site. The earlier of the two routes was the one that passed through the Menashe Hills. The course of this imperial road traversed Caesarea, via Shuni-Maiumas and Gaba Philippi, and the Jezreel Valley, ending in Scythopolis, from as early as 69 CE. This road between Legio and Caesarea was laid down only after the beginning of the second century, when Legio became the *caput viae* (the beginning of the road from Legio). The other imperial road between Caesarea and

[8] Determining the precise location from which the distance was measured by the milestone depends on identifying the *terminus* of Canal B within Caesarea. Roll (1983:152) referred to evidence from the second milestone along the Caesarea-Ptolemais Road (see Lehmann and Holumn 2000: No. 101) to show that the distances along the road system emanating from Caesarea were measured from the city center, perhaps from its famous tetrapylon. Porath and ʻAd (2015:120–122, n. 31) measured the distance between the milestone and Caesarea's *castellum divisorum* (water distribution tank) at 4850 m, that is 3.27 Roman miles, 1.08 km short of the four miles inscribed on the milestone. One kilometer south of the tank, one reaches the area of the *praetorium*, a possible although doubtful candidate location for the aqueduct's *terminus*. As no major nymphaeum was yet uncovered in Caesarea, such as those at Scythopolis, Gerasa or Gadara, it is difficult to evaluate whether such a structure formed the *terminus* of its aqueducts. However, it seems that in Caesarea there was a series of small nymphaea rather than one large nymphaeum (Porath 2002:122–124), making the distribution tank the most likely *terminus* from which to measure distances along the aqueduct.

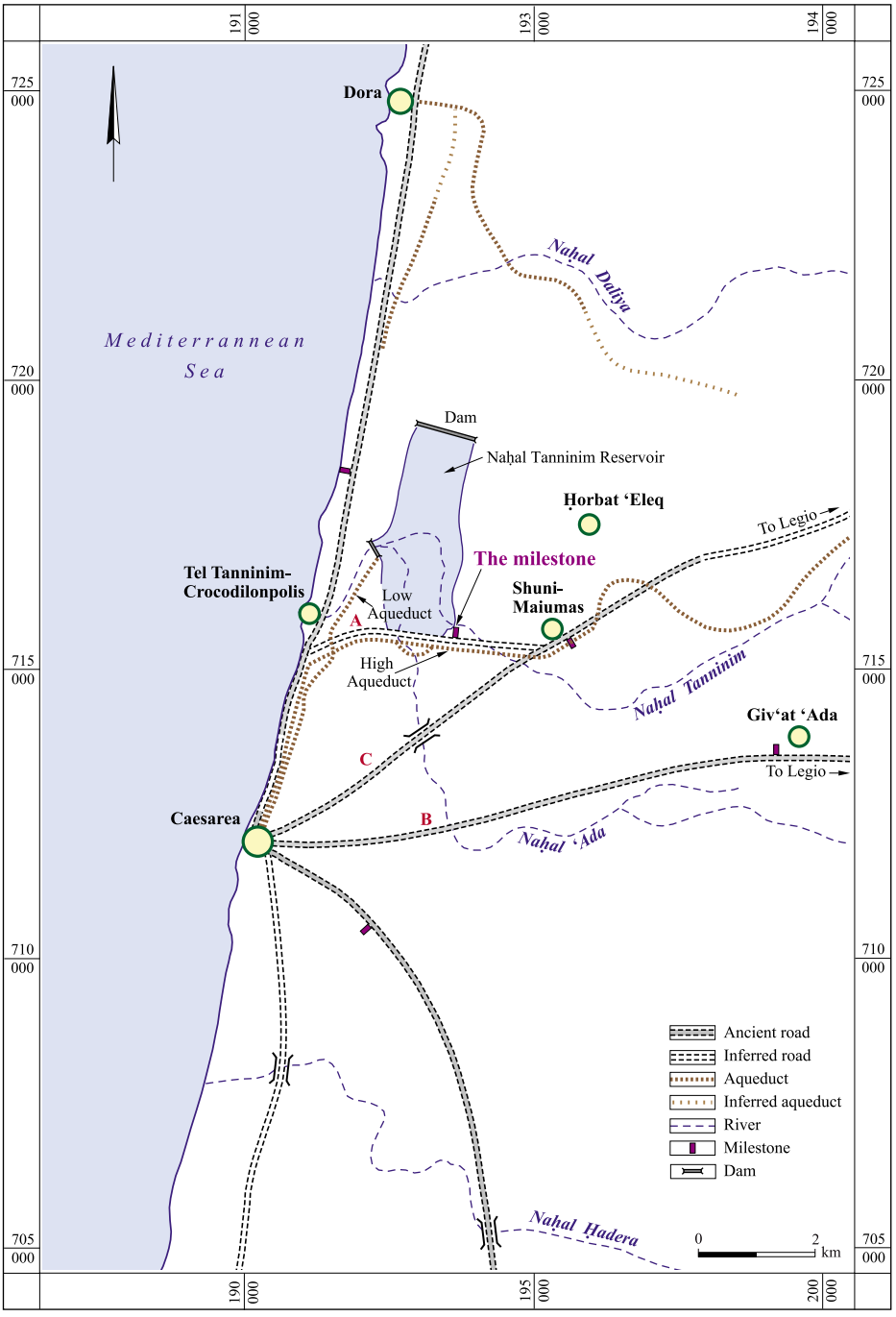

Fig. 10. Map of the Roman imperial roads and aqueducts of Caesarea, including the reconstructed road segment along Canal B proposed here (prepared by S. ʻAd and Y. Tepper; drawn after Tsafrir, Di Segni and Green 1994: Road Map, North).

Legio, laid down at a later time, passed through Wadi ʻAra. For unknown reasons, strategic, economic or both, once both roads were created, they continued to be used and maintained.

The Caesarea to Shuni-Maiumas Road Segment

If indeed the milestone under discussion stood along a road segment between Caesarea and Shuni-Maiumas, that segment would have been located at a more northern position relative to the two known routes exiting Caesarea and heading to Legio, which likely emanated from the northern gate of Caesarea and followed Canal B (Fig. 10:A). We must, then, examine whether the two different routes of the road segment between Caesarea and Shuni-Maiumas were contemporaneous or not.

An 85 m long, east–west Roman-period road segment, located nearest to the Bet Ḥananya milestone, begins at Shuni-Maiumas, and passes through it and parallel to Canal B (Abumokh 2001; Tepper 2011; see also Tepper 2022b). This road segment was dated by two Hadrianic milestones (117–138 CE), which relate to Legio as the *caput viae*. The road segment was part of the route that breaks away from the aqueduct and turns southwest toward Caesarea, crossing over Naḥal ʻAda (Fig. 10:C).

Excavations conducted on behalf of the IAA along this route uncovered a 120 m long stretch of the road east of the ancient bridge over Naḥal ʻAda that yielded fourth-century CE and later pottery from the roadbed (Ne'eman 1996; Shadman 2010). Also uncovered was a 21 m long segment further west, dated by pottery and coins to the same period (Peilstöcker 2006).

In the absence of milestones for this road segment, and the existence of fourth-century coins and pottery in the roadbed, we suggest that this segment was constructed at a later date than the part of the same road dated by milestones that emanated from Legio and passed through Shuni-Maiumas, i.e., later than the reign of Hadrian.

CONCLUSIONS

We uphold the broad chronological scheme according to which the route of the Roman imperial road from Caesarea via the Menashe Hills to Legio predated the route via Wadi ʻAra. We suggest the existence of a road segment along the former route based on the milestone discussed here, and claim that this route between Caesarea and Shuni-Maiumas initially stemmed from the north gate of Caesarea and passed alongside the route of Canal B for its entire course. The milestone under discussion is the only existing evidence of this road segment and the route that it took.

Although no certain remains of such a route have been found in the many years of exploration along the aqueduct (Conder and Kitchener 1882: Sheet VII; see also Olami, Sender and Oren 2006: Sites 57, 58, 60), the possibility that an imperial road passed along this major line of infrastructure is logistically sound as the aqueduct and road could have been constructed together.

We raise the possibility that this route eventually fell out of use when a dam was built over Naḥal Tanninim in the fourth century, flooding most of the area north of the Bet Ḥananya segment of Canal B (Peleg 2002; Porath 2002:118–119; Porath, Gendelman and Arnon 2007; Dray 2014). At that time, or a little later, a segment of the aqueduct was replaced by a c. 800 m long bypass curving south of the former route, away from the shore of the dammed reservoir. An inscription commemorating the renovation of the aqueduct in 385 CE was discovered near the western end of this bypass (*CIIP* II: No. 1259). Presumably, when both the aqueduct and the postulated road that followed its course became submerged, an alternative new southern road segment to Legio via Shuni-Maiumas was constructed to replace the submerged part, which probably emanated from the east gate of Caesarea.

Generally speaking, Roman roads remained in use and continued to be renovated and maintained over long periods of time, during which modifications of the route could have taken place in response to changing circumstances. The prevailing tendency among scholars to reconstruct the route of Roman roads strictly according to the latest remains that have survived is clearly inadequate and may conceal a long history of development.

If our interpretation is correct, the milestone along the road between Caesarea and Shuni-Maiumas marks the cancellation of an earlier road segment, almost two-centuries-old at that time, due to the construction of the dam and the southward shift of the route of that road. The major infrastructural change accompanying the creation of the dam and its reservoir would have involved flooding farmland and the translocation of farmhouses and roadside establishments, entailing considerable local economic and social ramifications. Finally, the contemporaneous existence of two imperial roads leading from Caesarea to Legio is evidence of the continued importance of the Roman military base in the Jezreel Valley even after Diocletian had moved the legion to southern Transjordan, and a testament to the continued significance of Caesarea, from where Palaestina's connections with Rome were maintained.

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