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## All Roads Lead to Nemea: Physical Evidence for Ancient Roads in the Territory of Kleonai in the Northeastern Peloponnesos

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# All Roads Lead to Nemea: Physical Evidence for Ancient Roads in the Territory of Kleonai in the Northeastern Peloponnesos

## I. Introduction

Few features of a city are as intimately connected with the way in which its inhabitants experience and exploit the surrounding landscape as the rural roads in its territory. The identification of the routes of extramural roads is particularly important in the territory which belonged to the ancient polis of Kleonai, since much of the history of the city was shaped by its location on major routes from the Isthmus and Corinth into the Peloponnesos. It is in connection with these routes that Kleonai is most often mentioned in the ancient sources, and likewise modern topographical studies of the area have tended to focus on defining the course of these routes<sup>1</sup>. The most studied of these is a major artery leading south from Corinth via Kleonai to Argos; this road was the focus of a recent article by the present author, where an argument was presented for the exact route of the road as it passed through Kleonaian territory<sup>2</sup>. The discussion offered here represents a complement to that study by presenting new physical evidence for multiple roads branching off the Corinth – Argos road at Kleonai and leading west via Nemea; these roads all represent local alternatives on the first leg of an important international route for east-west travel. The number of different roads over this east-west route represented by physical evidence and presented here further strengthens the conclusions of that previous work concerning the importance of Kleonaian territory as an access corridor and the importance of the city's early alliance with Argos on this account, but it also suggests some important general conclusions about ancient roads: the Greeks had more roads for wheeled traffic than usually thought, they did not always build roads where one might expect, and theories arguing that roads in the *chora* were built only by large, dominant states for military purposes ignores this evidence for local roads of diverse function.

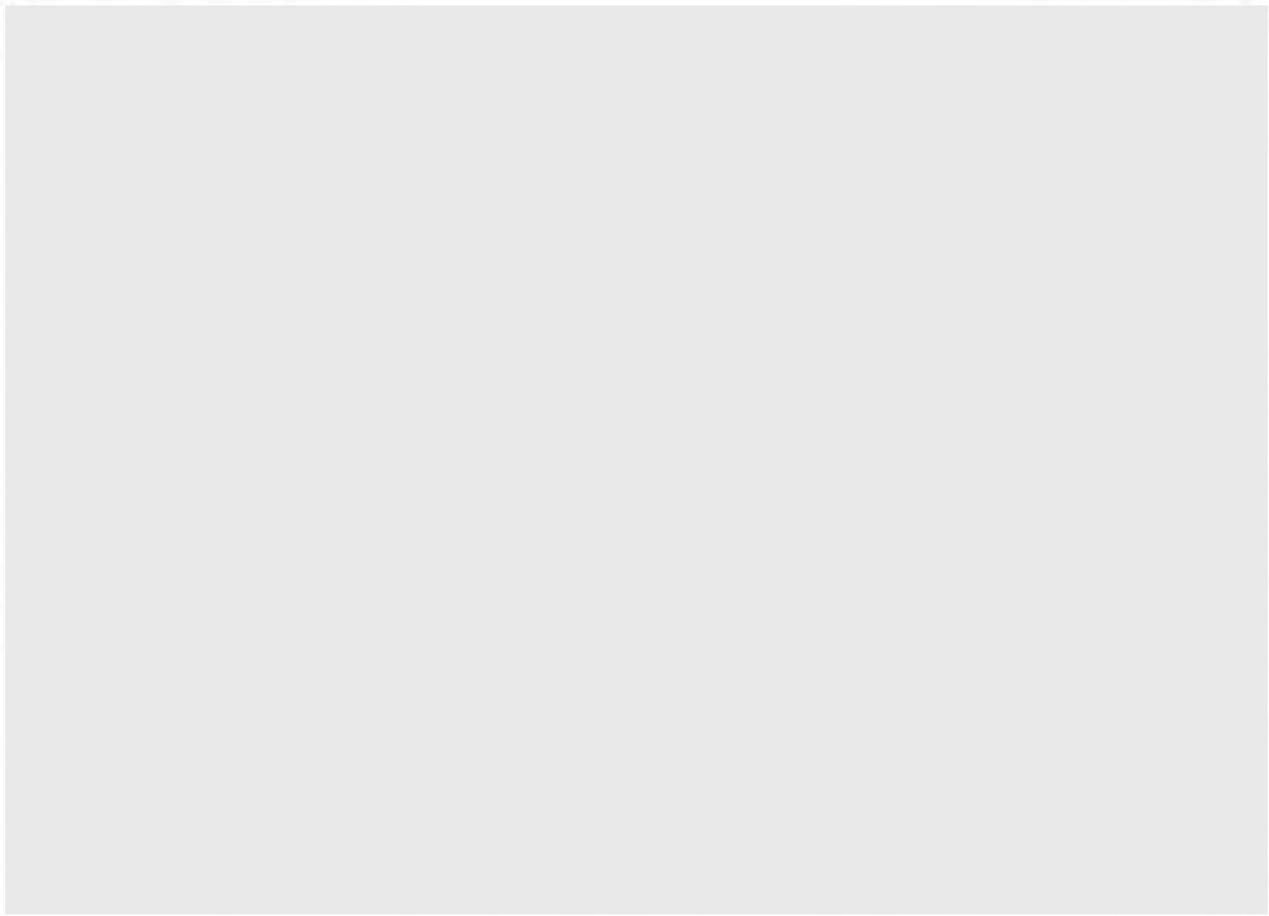
Field work for this article was primarily conducted in 2000 under the auspices of the American School of Classical Studies at Athens. I would like to thank the ASCSA and then ephor of the Fourth Ephoreia of Prehistoric and Classical Antiquities E. Spathari for their support of the project, and Dr. Yannis Pikoulas for helping me in the field and instructing me on the basics of ancient roads; his works and their bibliographies are an obvious place to direct the reader for specifics on all aspects of ancient road construction in Greece and their detection by autopsy. The debt this article owes to his monumental work

on roads in the Peloponnesos (Pikoulas 1995) will be immediately obvious to the reader. I have also relied heavily on the works of W. K. Pritchett (SAGT II, 1969 and SAGT III, 1980, e.g.; his discussion of ancient Greek roads in SAGT III, 143–196 remains the best introduction to the topic), and on the advice of Dr. Yannis Lolos, his important works cited in the bibliography, and his assistance in the field; indeed, this project was largely modeled on his work on the road system of ancient Sikyon, and his 2003 Glotta article is an invaluable source for the ancient terminology of roads. R. Stroud

and S. G. Miller deserve special thanks for their unflagging assistance with all aspects of my work on Kleonai (and in particular for reading earlier drafts of this paper), as do the anonymous readers and editors at *AA*.

<sup>1</sup> Pikoulas 1995; Bynum 1995; Marchand 2002, e.g.; on the routes into Argos via Kleonaian territory and their historical significance, see recently Tausend 2006, 19–58.

<sup>2</sup> Marchand 2009; for a recent examination of the northern portion of this road in Corinthian territory, see also Tzonou-Herbst – Herbst (forthcoming).



### I.I. Background: Kleonai and the Corinth – Argos Road

Kleonai was a medium-sized polis in the northeastern Peloponnesos; its territory corresponded roughly to the confines of the modern Aghios Vasilios valley, located north of the Psili Rachi range which bounds the Argolid on the northwest (fig. 1). The site was occupied by the EH period, and its Mycenaean settlement appears to have been centered on the city's acropolis; surface pottery, visible remains, and what little excavation has been done at the site, however, suggest that the city's heyday was in the Archaic and Classical periods<sup>3</sup>. A major, natural route via the Longopotamos river, which arises in Kleonaian territory, provided the most direct passage between Corinth and Argos, and an important road for north-south travel used this route from at least the Archaic to the Early Modern period. Kleonai's location right on this major artery, where it could both block Corinth's immediate and easy access into the interior and protect the entrance to the Tretos pass, the only low-elevation, natural pass through the Psili Rachi into the Argolid, made it a place of local strategic importance.

The significance of the city's topographical position was not based solely on its relationship to this north-south artery (fig. 2); a major route for east-west travel branched off the Corinth – Argos road at Kleonai. These routes, both north-south and east-west, served together to funnel traffic from the Peloponnesos toward the Isthmus. Thus, the city of Kleonai could serve virtually as a fortress controlling an important crossroads of direct, easy routes through the Peloponnesos.

Fig. 1 The region of Kleonai in the northeastern Peloponnesos.  
Map by J. Luchin

**3** The city apparently continued to thrive into the Hellenistic period. It shared in the general decline of the region in Roman times, but in the imperial age, its location on the Corinth – Argos road afforded the city some prosperity. In the Late Roman era, the population began to disperse from the three hills which represent the extent of the polis, but the early Byzantine – Frankish era basilica built on the eastern hill of the city and seen by early travelers indicates that it was still a focal point in the valley. By the time of his visit in 1805, Col. Leake observed only a few houses clustered on the slopes of the city site, and the new focus of the area was at Kurtessa to the south. For the results of a survey of the visible physical remains of the city and portions of the surrounding territory and a history of the city, see Marchand 2002. The Byzantine church at Kleonai, built on and out of earlier remains of the city and identified by early travelers as the temple of Athena mentioned by Pausanias 2, 15, 1,

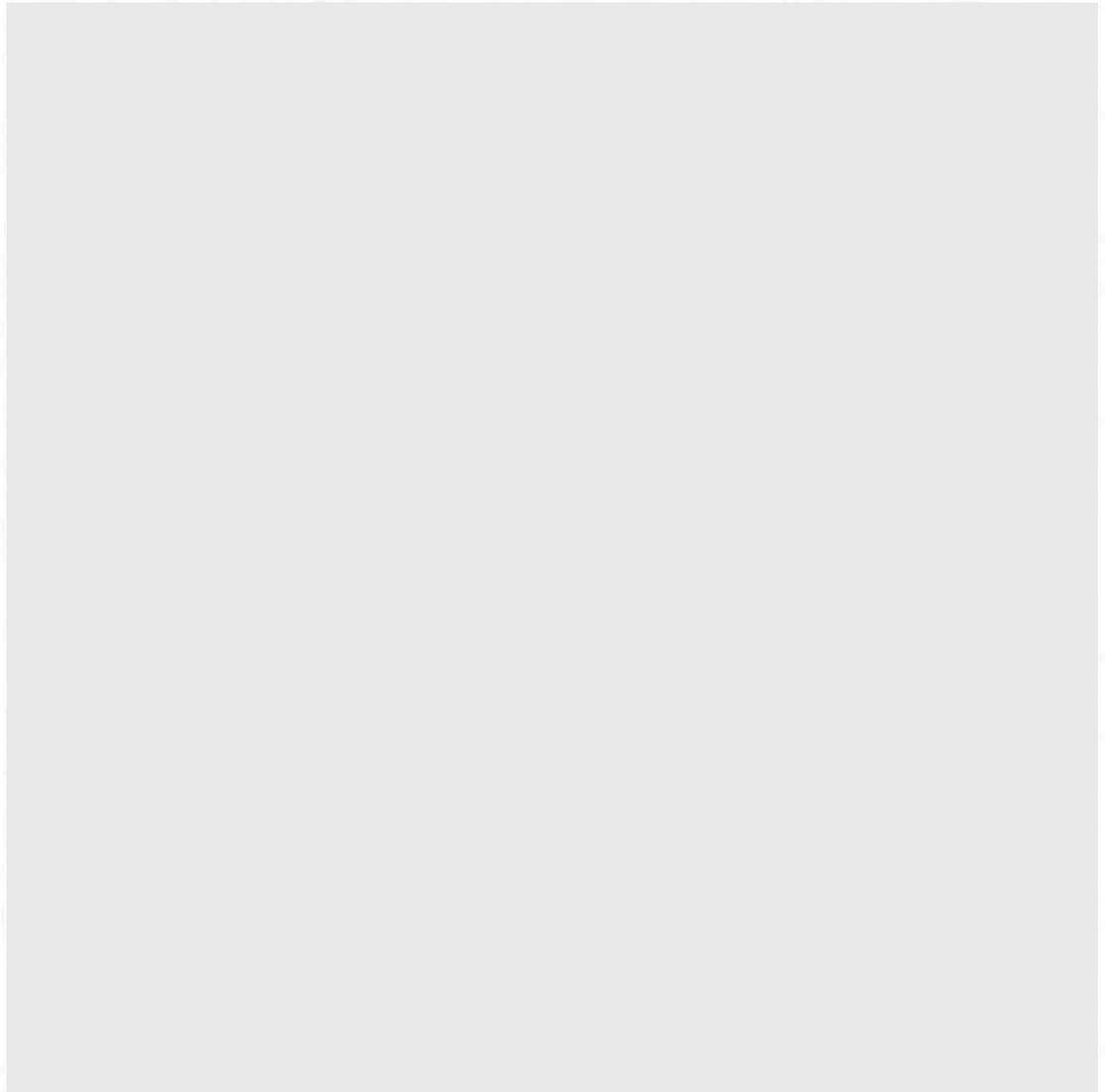


Fig. 2 The ancient Corinth – Argos road, its landmarks, and its relationship to the city of Kleonai; the circuit of the city wall is shaded in grey.

Plan by B. Stiver (scale 1 : 100 000)

was first investigated by Frickenhaus in 1911 (Frickenhaus 1913). Excavations resumed in 2004 as a synergasia with Ephor A. Mantis under the auspices of the DAI and under the supervision of T. Mattern; to date, only brief reports on the project have been published (AR 02/03, 20; 03/04, 18; 04/05, 19; 05/06, 24. On the Kleonaian temple of Herakles, see Mattern 2002). For bibliography covering all aspects of Kleonaian history, see Marchand 2002, 2008, and 2009.

<sup>4</sup> Marchand 2002, 164 f. and 172–182. Kleonai was certainly allied with Argos by

Kleonai's topographical position also brought with it potential threats, which by the Archaic period were already becoming acute: the polis was landlocked and surrounded by strong, expanding states including Sikyon, Corinth, and Argos. Close to Corinth and sharing with it a long border with few naturally defining features but easy of access via the Longopotamos pass, Kleonai had the most reason to fear the immediate threat of Corinth represented by the ever-visible Acrocorinth on its horizon. Sikyon, also sharing a border with Kleonai to the northwest which lacked strong physical barriers, represented another immediate threat. Although sources are generally lacking for the early history of the city, it is not surprising given its topographical situation that Kleonai forged a close political association with Argos, further away to the south and separated by the high Psili Rachi range, against these immediate threats; elsewhere I have argued that this alliance occurred in the Archaic period, and thus earlier than can at present be proved, and that it had important consequences<sup>4</sup>. The first was the founding of the Nemean Games in the adjacent Ancient Nemea valley to cement and celebrate the alliance, and to provide the allies with a venue for an international contest to rival the efforts of Sparta at Olympia; the Kleonaian themselves served as custodians of the

site and presided over the Games at least in the mid 5<sup>th</sup> century. The second was that all of the routes through Kleonaian territory were off limits to armies hostile to Argos throughout the Classical period.

To lay the groundwork for a discussion of roads which branched off at Kleonai and their significance for the history of the city, it will be necessary to review briefly the course of the Corinth – Argos road through Kleonaian territory, and in particular, to point out the landmarks of the route which will also be important here. The route entered the Aghios Vasilios valley in the northeast, via a pass carved by the Longopotamos river; this pass is narrow at its southern end, and visually marked by the conical hill of Kotroni, on which Kleonai had a watch tower (fig. 2: no. 1).

There is no physical evidence for the road as it crossed the open valley, but I have argued that it cut directly diagonally across the plain, and that near the city of Kleonai, the ancient road corresponds directly with an old monopati or footpath which certainly represents the early modern route from Kleonai and Argos to Corinth. This path begins at a Turkokratia bridge north of the ancient city (no. 2). It next heads past evidence for ancient burials as it nears Kleonai and thence straight through a miniature pass between the eastern hill of the city and a large, low hill (elev. 228 m; no. 3) which was outside the city limit. At this point, the road passes less than 200 meters below an extant portion of Kleonai's city wall. From here, the path leads straight to the modern church of Aghios Nikolaos (no. 4), which is built of ancient remains and over a roadside spring mentioned by early travelers. Adjacent to this structure is the location of the Khan of Kurtessa, an inn where many of the early travelers to Argos via Kleonai spent the night. This inn was clearly a major stop on the early modern Corinth – Argos road, but the adjacent church of Aghios Nikolaos, with its water source bubbling up from under the floor and traces of ancient construction, suggested already to Wiseman that this was the location of an ancient roadside structure, such as a fountain house, and thus that this was also stop on the ancient road<sup>5</sup>. From Kurtessa, the ancient road continued south, skirting the easternmost foothill of the long Drymoni ridge on which extensive quarries belonging to the city Kleonai were located, to enter the western end of the Tretos valley in the southwest. This is the most direct route across the Kleonaian plain, it was certainly the route of the early modern road, and this specific route fits with ancient literary accounts of the road and of events which must have unfolded thereon. Thus the main landmarks of the Corinth – Argos road near Kleonai can be iterated as follows: the Turkokratia bridge, the city of Kleonai itself, the spring and roadside structure at the church of Aghios Nikolaos/Khan of Kurtessa, and Kleonai's quarries on the easternmost tip of the Drymoni ridge.

### I.II. The East – West Axis: Literary Evidence

Kleonai commanded not only this main north–south route through the northeastern Peloponnesos, but also main routes leading to the west, and it is to these that we now turn. A major route west turned off the Corinth – Argos road south of the Tretos (Dervenakia) pass (fig. 1), heading across northern Arkadia in the region of Mantinea; since this branched off the Corinth – Argos route south of Kleonai, access to it from the Isthmus and Corinth was through Kleonaian territory, but there was another western route which branched off within Kleonaian territory and at the city of Kleonai itself, and led first to Nemea and then to Phlious, and it is alternative roads on the first portion

the early 5<sup>th</sup> century, and fully integrated into the Argive state by the 4<sup>th</sup> century (and until the entry of both states into the Achaian League). The exact nature of the relationship between Argos and Kleonai in the Classical period may well be elucidated by the full publication of bronze tablets inscribed with official Argive archive records first reported in SEG LI 410 and Kritzas 2005; based on these tablets, Kritzas (2006, 427–429) has now demonstrated that the full political integration of Kleonai can reasonably be pushed back to the early 4<sup>th</sup> century, whereas previously the date of Kleonai's integration into the Argive state could only be fixed roughly by the reference to Kleonai as a *kome* in two Argive inscriptions dating to the last decades of the 4<sup>th</sup> century B.C. (IG IV 616 and SEG XXX 355; Piérart – Thalmann 1980; Miller 1982; Perlman 2000, 145–149).  
<sup>5</sup> Wiseman 1978, 109–111 and figs. 151–154; of the early travelers, the most telling descriptions of the church are those of Aldenhoven (1841, 397) and Vischer (1857, 286).

of this route which are the focus of this paper. From Phlious, one could head south, past Mantinea and Asea to Sparta, or continue west to Arkadia and Elis via Stymphalos and Orchomenos<sup>6</sup>; presumably this is why the gate at Corinth through which the Corinth – Argos road left the city was called the Phliasian gate<sup>7</sup>. This route had the advantage of avoiding the Tretos, which was easily controlled by Argos, but it is important to remember that, because of the close alliance between Kleonai and Argos, by the 5<sup>th</sup> century if not earlier avoiding territory subject or allied to Argos would have necessitated a longer, circuitous route via Sikyon<sup>8</sup>.

From literary sources alone, it is not possible to map the course of the western route past Kleonai, but a general sense of the importance of the polis' territory for east-west travel can be found embedded in the city's mythology or inferred from reports of troop movements through the region. For example, in explaining how the sons of the Spartan Aristodemus came to marry sisters from Kleonai, Aelian places Kleonai on the brothers' direct route from the Delphic oracle back to Sparta (NA 12, 31). These twins are the Heraklidai who receive Lakonia as their portion of the Peloponnesos, and whose twin nature provides the *aition* for the dual kingship at Sparta, and thus the episode is set at the same mythic time as the division of the Lot of Temenos and purports to describe circumstances at some point in the Archaic period<sup>9</sup>. Likewise, a myth dating back to at least the 5<sup>th</sup> century involving the slaughter of Elian twins by Herakles puts Kleonai on their route from Elis to Isthmia (Pind. Ol. 10; Paus. 2, 15, 1). The immediate destination of the route west of Kleonai is the site of the sanctuary of Zeus at Nemea, and it is particularly reasonable to assume that there was a direct cart road from Kleonai to Nemea in the Classical period, given Kleonai's close association with the Nemean Games. Pritchett argued that this portion of the western route is even represented on the Peutinger Table, a map of imperial post roads, in the form of a line representing a direct Kleonai – Nemea road<sup>10</sup>. Y. Pikoulas concurred, and pointed out that such a direct Kleonai – Nemea cart road was no doubt the one over which the Corinthian allies of the Spartan king Agis were disbursed from Nemea in 418 B.C. as described in Thucydides 5, 60, 3<sup>11</sup>. It is also probably the road taken by the confederates in 394 B.C. to reach the Ancient Nemea valley from Corinth, where they had gathered forces before marching out toward Lakonia to meet the Spartans (Xen. Hell. 4, 2, 13–14)<sup>12</sup>. Thus a direct cart road between Kleonai and Nemea would represent both an important local road to the Nemean sanctuary and the first leg of the interstate route implied by the literary sources.

As part of his extensive work on roads in the Peloponnesos, Pikoulas looked on the ridge separating the sites of Kleonai and Nemea for physical evidence to support this interpretation of the ancient sources, and he found a section of multiple wheel ruts which he identified as part of a major Kleonai – Nemea cart road. That a road for wheeled traffic did exist over the first portion of an east-west route via Kleonai has thus already been confirmed by physical evidence. However, in the course of fieldwork on the territory of Kleonai, I have found that the ruts documented by Pikoulas represent only one out of more than one hundred previously undocumented groups of wheel ruts in Kleonai territory and on this ridge. Moreover, there is additional physical evidence for roadside structures and features which, when taken together with the evidence of these previously undocumented ruts, evokes a much more complicated image of the road network in the region than suggested by the idea of a single Kleonai – Nemea cart road. The bulk of what follows will therefore be concerned with presenting and interpreting this new physical

6 Pritchett 1969, 77; Pikoulas 1995, 75–91.

7 This name alone suggests the significance of the Corinth – Kleonai – Phlious route; it is also likely that the Corinthians did not call the gate Kleonai or Argive because of the long-standing enmity between the states. For the Phliasian gate, see Wiseman 1978, 81 and n. 4; 93 and n. 6; 94; Blegen et al. 1930, 74–76 and figs. 51, 53 pl. 4.

8 A point already noted by Pritchett (1989, 3 n. 14).

9 See also Paus. 3, 16, 6.

10 Pritchett 1980, 197–206; Weber 1976. It must be noted that this section of the map is problematic, and other interpretations of the line between Kleonai and Nemea are possible; the line may well represent the road through the Tretos pass, here designated as Nemea.

11 Pikoulas 1995, 47–49; 274 n. 76; Stroud 1994, 26.

12 Lolos 1998, 146–148; Pritchett 1969, 77–80.

evidence. To do so, it will be necessary first to review the topography of the region between Kleonai and Nemea, and the evidence for a cart road already presented by Pikoulas.

### I.III. Setting the Stage: Pikoulas' Ruts and the Local Topography

The Kleonai and Ancient Nemea valleys are separated by a wide, high plateau formed by a ridge of foothills extending south from the prominent peak of Mt. Apesas; this plateau is known locally as Mantzoraïka after the local land-owners (figs. 1. 2). To the south, beyond the new Corinth – Tripolis highway, the plateau rises in the distinct Rachi Mantzorou hill, marking both the true beginning of the pass via Tretos through which the Corinth – Argos road left the Kleonai valley to enter the Argolid and the border of Kleonaian territory proper. Beyond, a narrow east-west oriented valley opens up, and this so-called Tretos valley is bordered on the north by the southern edge of the Mantzoraïka plateau. At the western end of the Tretos valley, the watercourse which carved it turns sharply south near a spring and the location of another *Turkokratia* inn, the Khan of Dervenakia (at the modern Chani Anesti; fig. 2: no. 5), and it is the narrow, winding portion of the Tretos pass south of the Tretos valley which is often considered the main pass. Within the Tretos valley, in antiquity there were two roads branching off from the Corinth – Argos road and leading north to Nemea; these roads form a loop meeting again at the Khan of Dervenakia, and thence enter the main portion of the Tretos pass to the south. They provided access to the sanctuary of Nemea from the direction of Argos and Mycenae, but they represent a significant detour for travelers coming from the direction of Corinth or Kleonai<sup>13</sup>.

Conversely, any direct roads leading west from Kleonaian territory would have had to cross over the Mantzoraïka plateau. To the east, the top and edge of the plateau overlooking the Kleonai valley are rocky and rugged. This portion of the plateau is known as the Drymoni ridge from the fact that little but scrub oak can grow on its slopes (fig. 2); in places it is quite steep, but in others it slopes gently to the plain, where water runoff has broken it up into a series of increasingly low foothills stretching out to the east and south of the ancient city. These foothills, the ridge, and a large portion of the eastern half of the Mantzoraïka plateau are all covered by relatively shallow but extensive ancient limestone quarries belonging to the city of Kleonai (fig. 3). These quarries extend over an area of roughly 2 square kilometers and consist of over 200 individual quarry areas; the majority of them have never been excavated, but a conservative estimate of the total amount of limestone removed in antiquity totals over 146 000 cubic meters<sup>14</sup>. It is therefore not surprising that there is much exposed bedrock on this ridge which is conducive to the preservation of wheel ruts. In total, on this ridge I located over 128 areas each preserving multiple wheel ruts; given the overgrown state of the region, these exposed and visible ruts are likely to represent only a portion both of those still extant and of those originally located here.

One reason for the unusually large number of ruts is readily apparent: many of them are clearly associated with the quarries, each discrete area of which appears to have had its own access road or roads. It is possible to associate many of the ruts directly with individual quarries, but there are 29 groups of ruts assignable to three separate roads which do not appear to have been primarily created for quarry access. Instead, they represent three alternatives on the basic route between Kleonai and Nemea over the portion of it which descends the

**13** Pikoulas 1995, 274 f.; Bynum 1995, 69 f.; Marchand 2002, 86–93. These routes were taken by a number of early travelers, and it is possible that Pausanias (2, 15, 2–3) visited Nemea by taking the loop represented by these roads and not a direct road from Kleonai; for this reason his account is not proof of a direct Kleonai – Nemea road.

**14** Marchand 2002, 337 and ch. 4 *passim*. This figure does not include the excavated portion of these quarries adjacent to the new Corinth – Tripolis highway which were the subject of a rescue excavation in the late 1980s by 4<sup>th</sup> Ephoreia of Prehistoric and Classical Antiquities in Nauplion: construction on the highway was stopped to clear a 3085 square meter area of the ancient limestone quarries at the southern tip of the Drymoni ridge (modern toponym Patima), but this represents only a fraction of the total quarry system. The only publication of results from this excavation consists of a short note by the then Ephor F. Pachyianni-Kaloudi in the June 1991 *Ἀρχαιολογία*; the unexcavated quarries were part of the larger survey of visible remains in Kleonaian territory conducted in 2002 by the author, and the figures given in the text above result from that study.

plateau toward the east and the direction of Kleonai and the Corinth – Argos road; to the west, they all feed into the ruts found by Pikoulas at the top of the plateau, to continue as one road to Nemea. By using the accounts of the early travelers, the observation of potential roadside features, and autopsy of the topography of the area, it is possible to argue further that each of these three roads in turn had multiple branches. Since Pikoulas' ruts therefore represent the point of convergence of all of the new roads and their continuation as one road toward Nemea, it is logical to begin with a discussion of these, and then to trace the new roads from them, and thus from west to east, from the direction of Nemea and Pikoulas' ruts, toward Kleonai<sup>15</sup>.

The ruts recorded by Pikoulas run for approximately 65 m just south of the paved modern road connecting the village of Ancient Nemea with Kondostavlo, the modern village closest to ancient Kleonai (figs. 3. 4)<sup>16</sup>. To the west, Pikoulas' ruts begin at a point near the location *iotrisi* (γέωτρησι = pump) directly adjacent to the southern side of the paved Kondostavlo – Ancient Nemea road (fig. 3). To the east, the ruts head generally towards the edge of the Mantzoraïka plateau overlooking the Kleonai valley. At this point, they run in a direction N 70 E, roughly parallel to a power line and modern underground pipeline taking water from Stymphalos to Corinth.

The ruts now end at a point approximately 100 m due south of the paved road, near where it turns gently to the north before encountering the first houses of Kondostavlo. These ruts no doubt continued further to the east, but the entire area has been disturbed by an extensive dumping of dirt and debris. Documentation of these ruts is given by Pikoulas and therefore not repeated here, but it is worth noting his observations that the ruts are worn very wide and deep in the soft limestone, and that rather than forming a single pair of ruts, there are a number of roughly parallel ruts for each wheel, indicating the presence of multiple overlapping tracks<sup>17</sup>.

Pikoulas argued that these ruts must represent a portion of a main Classical road from Kleonai to Nemea, but he also noted the extensive quarrying on the plateau and ridge just south of and surrounding the wheel ruts, and argued that the depth and width of the ruts, plus the doubling of the track, was probably the result of the heavy use and heavy loads associated with the transportation of blocks from the quarries. The ruts documented by Pikoulas do not extend to the west beyond the point at which quarrying can be observed, and therefore it could conceivably be argued that the ruts he documented belong not necessarily to a through road for long-distance travel, but simply to one of the copious roads providing access between Kleonai and its quarries on this ridge. However, it is clear from the topography that a direct road from Kleonai to Nemea would have to cross the Mantzoraïka plateau at approximately the point of Pikoulas' ruts: to the north, the slope of the plateau increases significantly, and further west, a deep ravine formed by the Aghia Triada rema bisects the plateau to the south (the rema is labeled on figs. 2. 3). A route further south would not be able to cross this ravine easily, and a route further north would represent a significant uphill detour. There is thus little reason to doubt that the ruts found by Pikoulas represent part of a Kleonai – Nemea road, but some new evidence can now be added to strengthen this logical assumption. I have found a new set of ruts considerably further west (fig. 3, labeled Ruts [west])<sup>18</sup>. These ruts are located beyond significant quarrying to the west, they do not lead directly to any quarry area, and they are in the location that one might expect for a continuation toward Nemea of the road represented by Pikoulas' ruts.

Moreover, it is clear that at least the 4<sup>th</sup> century temple of Zeus at Nemea and other associated structures constructed for the sanctuary and Games at

**15** It has proven impossible to be consistent in the direction in which all roads and routes are discussed; in describing the physical remains, it is necessary to begin with the known ruts discovered by Pikoulas, and thus to trace the evidence from west to east. When discussing the routes of the early travelers, however, it is necessary to follow in their footsteps and to follow the direction of their accounts. The majority of the early travelers are starting out from Corinth and heading west for Nemea via Kleonai, thus their routes are presented from east to west (the only exception is Aldenhoven). I have attempted to mitigate the potential confusion resulting from the obligatory changes in direction by noting direction often in the text, and by making frequent reference to the accompanying plans.

**16** Pikoulas 1995, 47 f. figs. 9–11.

**17** For a detailed discussion of Pikoulas' ruts, see Pikoulas 1995, 46–49; based on his discussion, I identified seven separate sections of multiple ruts all roughly on the same orientation (N 70 E) and within the general area marked on his plan. However, there are other ruts in this same area on different trajectories, a fact not mentioned by Pikoulas. These appear to represent quarry access roads or auxiliary tracks funneling into and out of the main ruts.

**18** One set of parallel ruts exposed for 4,50 m, oriented N 50 E, and approximately ½ kilometer west of the *iotrisi* marking the end of Pikoulas' ruts and 9 m south of the Kondostavlo – Ancient Nemea road. Both ruts are still full of soil, but the northernmost is 0,15 m wide and at least 0,15 m deep. The ruts are approximately 1,47 m apart, but because they are not fully exposed, the axle width cannot be accurately determined.

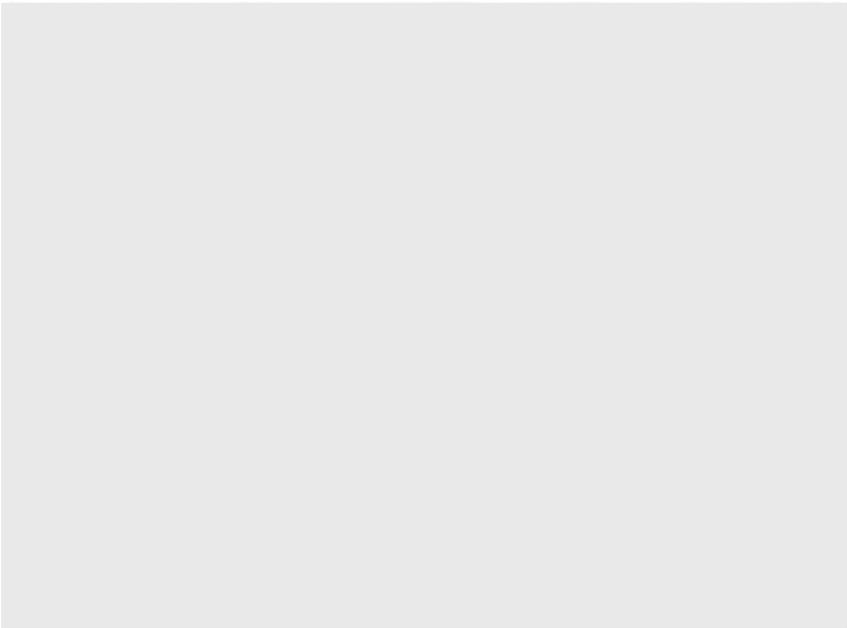


Fig. 3 The Mantzoraika plateau and the Drymoni ridge. The section of wheel ruts documented by Pikoulas is marked by the large rectangular box. Plan by J. Luchin (scale 1 : 40 000)

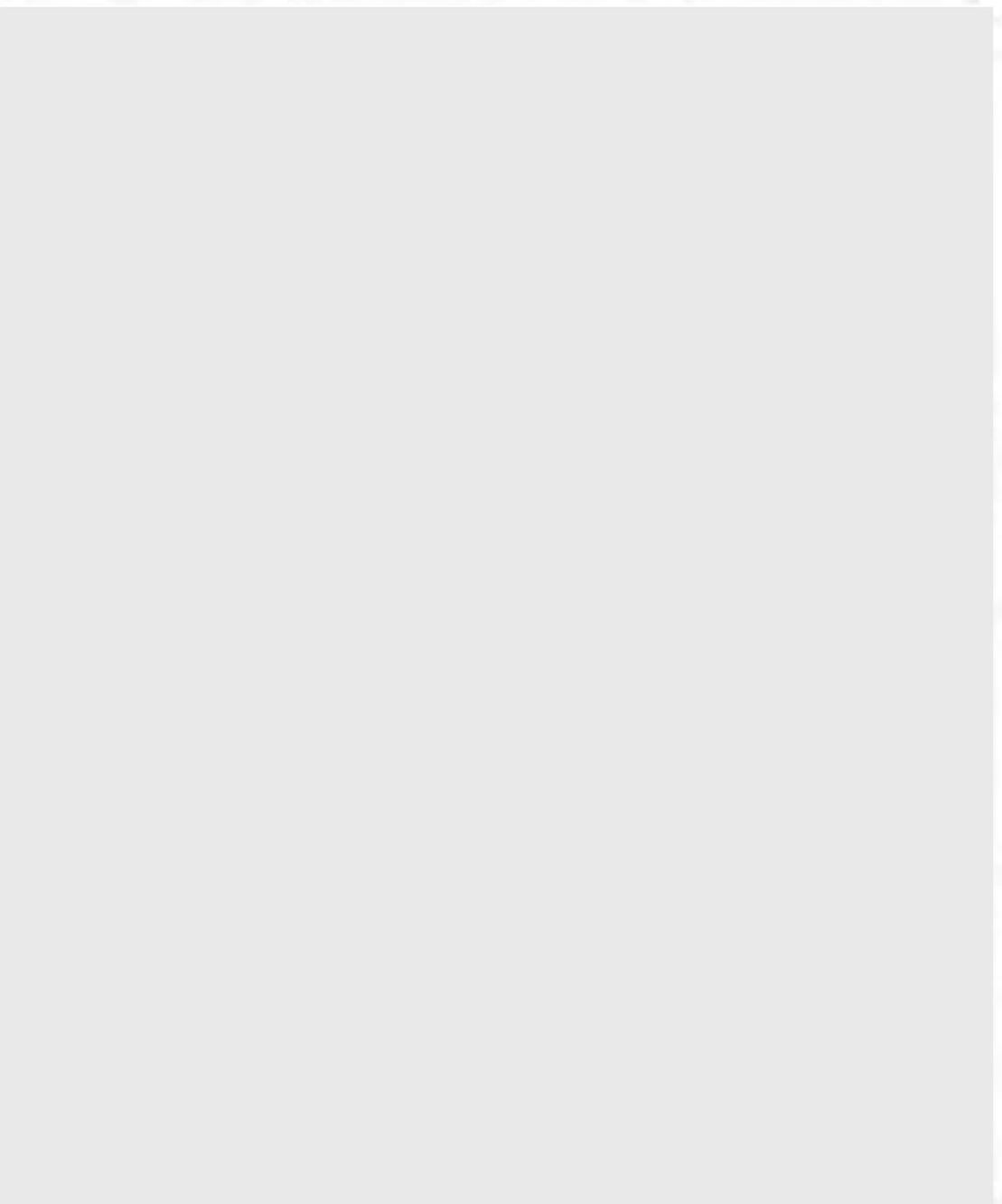


Fig. 4 Sections of ancient roads represented by physical evidence and attributable to three separate roads (A, V, and L) leading east down the Drymoni ridge from Pikoulas' ruts toward the Kleonai plain. Plan by B. Stiver (scale 1 : 7500)

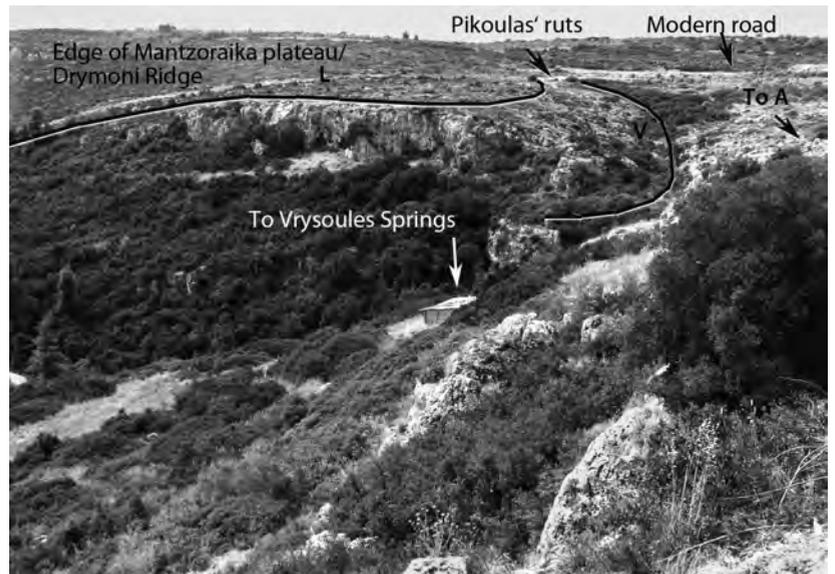


Fig. 5 The Drymoni ridge from the northeast

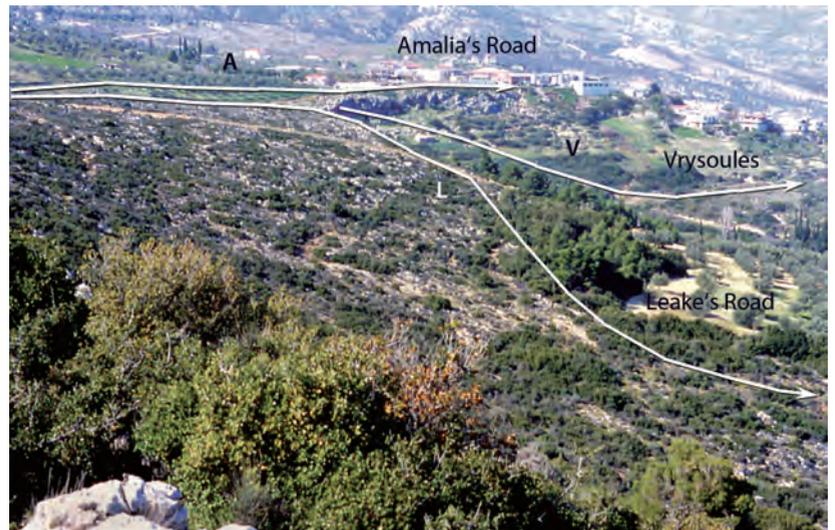


Fig. 6 The Drymoni ridge from the south. Kondostavlo is visible at the top and right, Pikoulas' ruts end just out of view to the left



Fig. 7 Looking north over the limestone crags dotted with cliffs above Vrysoules to the sheepfold of Amalia Mougiou and the Lafkiotis winery

that time were built from stone quarried on Drymoni<sup>19</sup>; some of the unexcavated quarries on Drymoni still contain abandoned architectural elements which must have been destined for the Zeus temple. It is also likely that the stone for the Archaic temple also came from Kleonai's quarries<sup>20</sup>. This material must have been taken in carts from the top of the ridge over the plateau to Nemea on approximately the trajectory of Pikoulas' ruts<sup>21</sup>. From the new ruts to the west, the road must have followed roughly the line of the paved Kondostavlo – Nemea road to the sanctuary of Zeus<sup>22</sup>.

To the east of Pikoulas' ruts, which are located on relatively flat ground, the Mantzoraïka plateau soon ends at the edge of the Drymoni ridge. The descent to the Kleonai valley beyond is relatively steep. The slope is gentler directly east of the ruts, but further north, the edge of the ridge consists of a sheer crag of exposed limestone (figs. 3. 4). At the eastern end of Pikoulas' ruts, a dry streambed begins to cut a course through this bedrock as it heads northeast toward the edge of the ridge. As it approaches the edge, it forms an increasingly deep and narrow little ravine, and the rocky sides of the ridge close in vertically above (figs. 3. 5. 29). At the point where the streambed reaches the edge of the plateau and ridge, there is a vertical drop to the valley floor below, and at the base of the drop is a glen with a number of springs. This area is called »Vrysoules« or »little springs« by the locals. To the north and south of the Vrysoules streambed and ravine the limestone ridge forms vertical cliffs riddled with caves (figs. 3–7). Below the cliffs, the ridge slopes away to the east more gradually, but the rocky walls leave very little horizontal space on either the north or south of the streambed on which to descend to these slopes.

## II. New Roads: the Physical Evidence

Because of the precipitous nature of the cliffs surrounding the dry streambed, Pikoulas assumed that the continuation to the east of the Kleonai – Nemea road represented by his ruts must have skirted Vrysoules to the south, where the terrain of the ridge is gentler; he thus proposed that the road continued virtually due east, and continued to follow the approximate route of the modern pipeline and telephone poles marked on figs. 3 and 4. This is a reasonable reconstruction based on the topography of the ridge, but it is not borne out by autopsy. Instead, one of the newly discovered ancient roads representing a continuation to the east of Pikoulas' ruts follows the top of the cliffs *north* of the streambed (Road A). The second follows the top of the rocky cliff *south* of the streambed, to descend to the valley via a circuitous route (Road L). Most surprisingly, the third runs right down the *center* of the dry streambed to descend the steepest portion of the ridge – Road V – (figs. 4–6). The sheer number of options that these roads represent and the extent of the quarrying operations on the ridge make certainty about which of these roads represents the continuation of the »main road« and which were quarry roads or secondary roads difficult. However, after a close look at the physical evidence for each road, the early travelers' reports, and the ancient sources, some strong possibilities for the interpretation of these roads do emerge, and it is suggested here that they all represent important ancient roads for travel.

Because it seems probable that some if not many of the wheel ruts presented here may soon be obscured or destroyed, and so that the evidence discussed here can be checked and followed in the field, some additional documentation of each road section is provided in an appendix at the end of the article, but important dimensions are given and discussed in the text. All sections of

**19** Hill 1966, 3; Miller et al. 1990, 10, 133 f. 158; Miller 2001, 76 n. 154; Birge et al. 1992, 9 n. 2. I thank Merle Langdon for the additional observation that no quarries were found in the Nemea or Tretos valleys by the Nemea Valley Archaeological Project.

**20** Miller et al. 2004, 20 and 53 n. 49 fig. 31, and 158. Limestone blocks from the earlier temple (dating to the first half of the 6<sup>th</sup> century B.C.) have been found in the temple destruction debris and re-used in other structures (Miller et al. 2004, 50–52). The appearance of this stone differs from that used for the second temple, but the quality and appearance of the stone in the quarries also varies, and it may have been quarried from a different quarry area on Drymoni.

**21** By the same token, it is reasonable to argue that some material was transported from this portion of the quarries back for construction in Kleonai itself, and some evidence can be produced to support this claim in the form of at least one quarry access road which curves to the east to feed into Pikoulas' ruts from the south; see Marchand 2002, 336 (ruts 98 between quarries 184 and 185).

**22** There is little exposed bedrock and no ruts preserved further west, but the basic route of the ancient road can be assumed based on the topography of the ridge to have followed roughly that of the modern road. For a discussion of possible landmarks on this route and early travelers' reports, see Marchand 2002, 117–120.



8



9



10



11

Fig. 8 Road section A1

Fig. 9 A segment of road section A4

Fig. 10 A segment of road section A5

Fig. 11 Looking north down one of the ruts of road section A3 toward the Lafkiotis winery

<sup>23</sup> I thank Amalia for telling me about the road and allowing me onto her property to study it.

<sup>24</sup> These ruts have recently been obscured by dumped soil.

all wheel ruts were measured (as exposed only), photographed, an elevation taken, and mapped to scale on a ΓΥΣ map 1:5000 from 1987, where 1 mm = 5 m. A modified version of the resulting map is reproduced here as fig. 4 (no longer strictly to scale).

### III.1. Road One via Amalia Mougou's Property (Road A)

#### *Documentation*

The first new road east of Pikoulas' ruts runs northeast along the top of the Drymoni ridge and is described from west to east. It runs roughly parallel to the edge of the ridge north of the dry streambed and ravine, above a series of impressive caves (Ruts A1–A9; figs. 4–11). It is also roughly parallel to the paved Kondostavlo – Ancient Nemea road and approximately 40 m to the east. Most of the preserved sections lie between a sheepfold on the property of Amalia Mougou to the west, and the Lafkiotis winery to the east (A2–A9; figs. 4, 7)<sup>23</sup>. These ruts represent a road preserved for approximately 65 m in the form of sections of both wheel ruts. It seems possible that another group of ruts by a cement dexamene (water tank) 10 m southeast of the paved road and much further west may represent part of the same road (A1; fig. 8)<sup>24</sup>. Here one set of parallel, discrete ruts with an axle span of 1,50 m is preserved in sections over a distance of 13 m. The ruts make a 20 degree turn from N 10 degrees E to N 30 degrees east to curve to the northeast, as though diverging from Pikoulas' ruts to avoid the deepening streambed to the east. The ruts at A2, the next to the east, lie within the Mougou sheepfold; this segment of the road makes a turn to the east and emerges from the direction of the Mougou house. At this point, the road has skirted the northern side of the streambed, so that it can turn again to the east; this is advantageous, because to the north there is rising ground. Therefore, if this section A1 belongs with ruts A2–A9, then the entire road would represent a branching off from the main Nemea – Kleonai road (as represented by Pikoulas' ruts) to skirt the Vrysoules streambed and ravine to the north, following the topography and taking the most direct route which lies on relatively flat ground.

From the sheepfold to the winery (sections A2–A9), it is clear that all the ruts belong to one road. There is only one rut for each wheel, and there is only one discrete set of ruts; in other words, there is no doubling of the track (figs. 9, 10). In four places the ruts are preserved parallel to each other and an axle span of 1,50 m can be measured; in every case the trajectory of the two ruts remains constantly 1,50 m apart. The road generally follows a course N 50 degrees S, along the relatively level top of the northern ridge beyond Vrysoules, above the cliff with the caves (figs. 4, 7).

### Discussion

The fence and cement court of the Lafkiotis winery begin only inches to the north of section A9, obliterating any further traces of the road in this direction. Amalia Mouggiou remembers additional stretches of the road preserved further east toward Kondostavlo, but these have been destroyed by the construction of the winery (fig. 11). The ruts themselves are not as deep, wide or rippled by the slipping of the cart wheels as many of the ruts found in the quarries, and indeed there does not appear to have been significant quarrying in this direction. It is possible that this road represents merely a quarry access road of short duration which would not have continued much further east and which would have led only to what limited quarrying of surface material may have occurred on this portion of the ridge, but I find this explanation unsatisfactory. There are no traces of quarrying to the east or north of these ruts. That there was an ancient road running through the modern village of Kondostavlo itself has never been suggested, since the village is not on the ancient city site, the ridge is steep here and the modern road was created using blasting and utilizing switchbacks, and such a route would represent a detour from Kleonai to most other destinations, including Nemea. However, there are reasons to support the idea that these ruts are part of such a road from Kleonai to Nemea via Kondostavlo, albeit an indirect route<sup>25</sup>.

### Route A to Aa to Va (fig. 12):

In the center of the town of Kondostavlo and due north of ruts A2–A9, there is a copious water source located at the plateia of the Panaghia church. The spot is called Platania by the locals because of the large, lush trees which line what used to be a stream flowing from the spring, which has now been tapped to provide water for the upper town (fig. 12). Chr. Charitos, himself a resident of Kondostavlo, reports that when this water system was being built approximately 50 years ago, parts of an ancient aqueduct were found leading toward the western wall of ancient Kleonai. Similar sections of a water conduit were also found about 20 m to the west of the conjectured line of Kleonai's city wall in an area called Γούβα Κάτρα. Charitos offers no date for this aqueduct and is rather vague about its construction: he says that it consisted of »fitted plaques joined with lead«<sup>26</sup>. He notes that the water was taken to the ancient city by natural flow since there is a significant downhill difference in height between the spring at Platania and the ancient city. Since none of the aqueduct has been preserved this report cannot be directly confirmed, but other Kleonai residents remember the discovery. Elias Skazas, the long-time foreman of the excavations at Nemea and a Kondostavlo resident, worked on the construction of the modern water system, and adds that a dexamene or holding basin for the ancient aqueduct was also found, located just behind the plane tree closest to the modern drainage pipe of the spring at the western end of the plateia. He recalls that it was at least 3 by 4 m in size, built of well-cut hard stone and completely lined with lead. The lead was removed and sold. It was a

25 Exactly how an ancient road continuing north from the ruts of Road A would have descended the original topography of the ridge beyond the Lafkiotis winery is unclear, but the likelihood of such a road should not be dismissed based only on the seeming difficulty of such a descent, as the physical evidence presented for Road V below (on a steeper portion of the ridge to the south) indicates.

26 Charitos 1968, 8: τμήματα ἀρχαίου ὑδραγωγείου κατασκευασμένου ἀπὸ πλάκας καταλλήλως λαχρυμέναις εἰς τὰς συνδέσεις τῶν ὁποίων ὑπῆρχεν μόλυβδος.

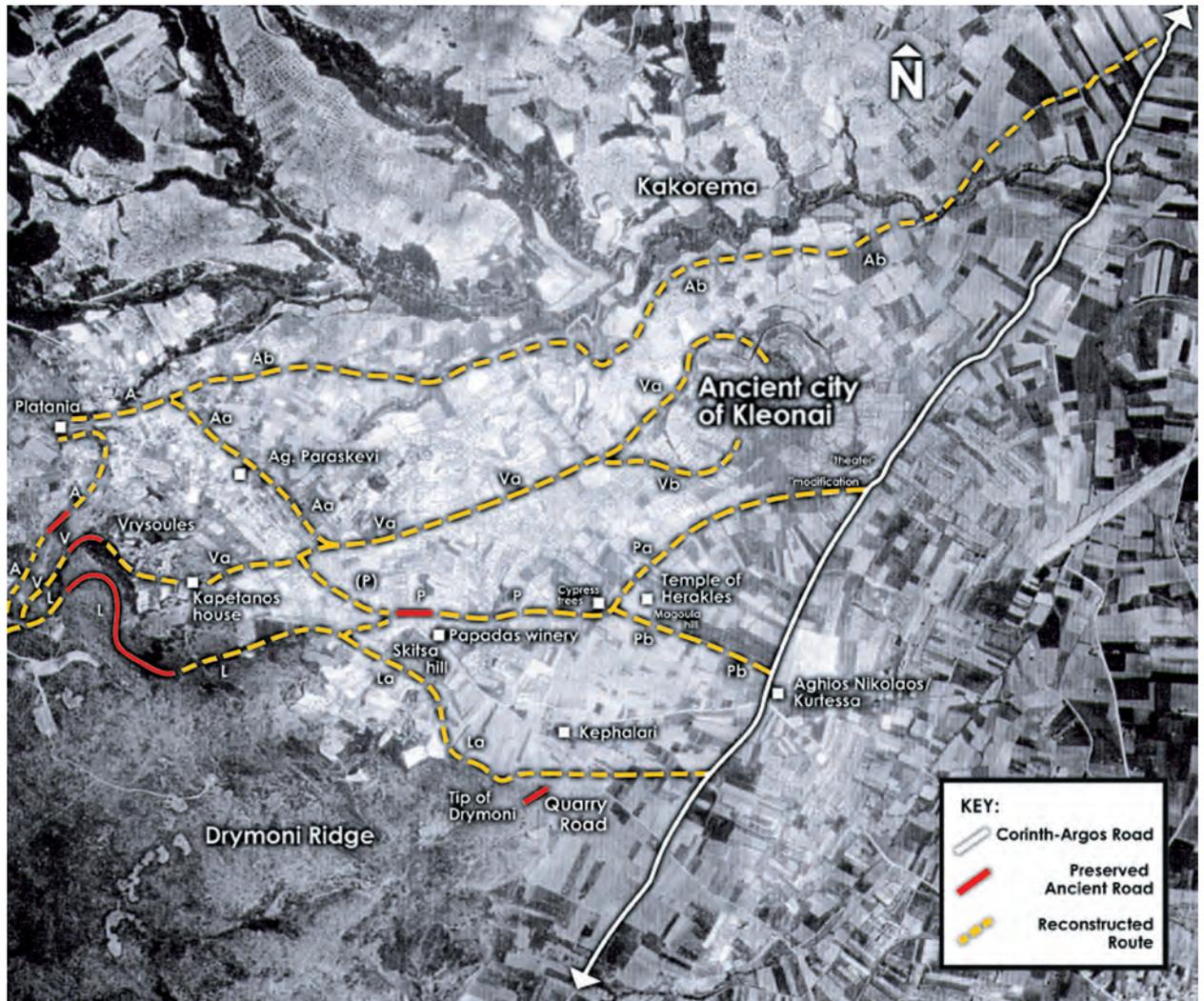


Fig. 12 The reconstructed local road system of Kleonai

27 Personal communication, December 5, 1999. A similar pipe was found in the stadium at Nemea and is now on display in the Nemea museum. It dates to the 4<sup>th</sup> century B.C.: see Miller 2001, 16 f. and fig. 22.

28 Korres 1995, 67, and Pikoulas 1995, 317. A parallel near at hand is the sections of an aqueduct which R. Stroud observed following the line of the presumed »mountain road« from Corinth to Tenea (Pausanias 2, 4, 5) in the vicinity of the monastery of the Holy Cross near Mapsos. I thank R. Stroud for calling this to my attention. See

gathering tank, with only a small spout feeding the water into the tank. From this tank the aqueduct led away toward the ancient city, under the line of the modern main road through town which at that time had not yet been paved. He cannot remember if the aqueduct rested on a stone socle or not; if so, it would have been rough and not very high. He describes the actual water conduit as consisting of interlocking sections of round terracotta water pipe, not unlike such systems found at Nemea<sup>27</sup>. The description of the aqueduct given by Kondostavlo residents and its destination seem to indicate that it was an ancient not an early modern construction, although in the absence of physical remains, no precise date can be determined. It is well-known that aqueducts often followed the course of roads, and that road access was necessary both for the construction and for the maintenance of aqueducts<sup>28</sup>. It therefore seems reasonable to assume that some sort of ancient road followed the course of the aqueduct from Kleonai at least as far as the spring.

Additionally, directly behind the church of Aghia Paraskevi in Kondostavlo, just east of the modern road under discussion, a large number of well-cut poros blocks were uncovered during construction behind the church (fig. 12). Although these blocks were clearly re-used, at least one section of them still gives the appearance of having been re-used in situ. This area is

well outside any possible reconstruction of the extent of the ancient city walls. These blocks appear to represent a structure of unknown function originally along an ancient road from Platania to the city of Kleonai<sup>29</sup>. A reasonable assumption would be that the road through Amalia Mougiou's property at one time continued east toward the spring, thus providing a link between the main Kleonai – Nemea road as represented by Pikoulas' ruts on the one hand, and the likely road following the course of the aqueduct on the other, and that this road continued past Aghia Paraskevi to the western walls of Kleonai. This route is marked on fig. 12 as A (the wheel ruts A1 – A9), to Aa (past Aghia Paraskevi) to Va (which approaches the city wall of Kleonai near toponym Γούβα Κάτρα, and which is also part of another route to the acropolis of Kleonai discussed below under Road V; note that this is the area in which additional remains of an aqueduct similar to those leading from the Platania spring were observed).

In addition to the Platania spring itself, there may have been other features in the area to attract visitors. Directly above the spring to the west there are a series of caves and grottos in the face of the bedrock which was no doubt worn down and exposed by the running water that partly forms the Platania spring, and recently I have suggested that this would have been a perfect location to have been associated with the city's eponymous nymph Kleone<sup>30</sup>. It is worth noting that this must be the spring that Curtius mentions *both* as a major water source for Kleonai, *and* as the haunt of the nymph:

»In the area [of Kleonai] is a spring, which is separated from the Adrasteia [in the Ancient Nemean valley] only by the small foot of Mt Apesas; this is probably the same one that the ancients called Kleone, the daughter of Asopos. It flows down into the deeply cut bed of the mountain torrent, the main source of the valley's water, which forces its way past the city hill in the gully to the north.«<sup>31</sup>

Curtius must mean the spring at Platania, since it is the only one which is on the eastern slopes of Apesas' foothills and which, if allowed to flow freely, would eventually empty into the large Kakorema streambed running east-west north of the city (figs. 2. 12). Although perhaps it would be stretching the evidence to suggest that there was ever veneration of Kleone at the caves and the Platania spring, the area is an obvious candidate for the haunt of the city's eponymous figure, and Curtius' observations stress the prominence of the spring as a water source for and feature of the city; the spring was surely important in antiquity, and a road following an aqueduct from it to the city of Kleonai is likely. Moreover, the spring and grotto would be logical roadside stops, particularly for long-distance travel.

Route A to Aa to Ab (fig. 12):

Given the significant water source at the Platania spring, it is also likely that there was a branch of Road A that headed from the spring not for Kleonai, but which circumvented it to join the Corinth – Argos road directly to the north of the city. A dirt road following this course was recently paved (Route Ab; fig. 12); it would allow a traveler from Phlious and Nemea to Corinth to avoid continuing all the way to the city of Kleonai. This route still passes close to the city itself, because the Kakorema, one of the largest tributaries of the Longopotamos, is fed by waters from the entire eastern foothills of Apesas, and the ravines created by these sources allow no easy passage on this side of Apesas further north. Thus the advantage of such a route is not that it avoids Kleonaian territory, but that it provides the most direct route for the long-distance traveler between Corinth and destinations west of Kleonai. Another small spring at the church of the Evangelismos would have also been on this

Bynum 1995, 19–21, who calls it »of unknown date«, and Pikoulas 1995, 39–41, who calls it a secondary Roman aqueduct of Corinth (in addition to the Hadrianic aqueduct). See also the aqueducts following the Vrysoules and Leake roads documented below.

**29** Kondostavlo residents claim that this structure was investigated by someone sent from the Fourth Ephoreia of Classical and Prehistoric Antiquities at Nauplion at some point in the past (possibly fifteen to twenty years ago). I found no account of this in the ADelt reports. Residents claim that the blocks belonged to an ancient temple, over which a medieval church had been constructed; the whole thing had then been made into an early modern church. There are indeed many large, well-worked poros blocks, some of which appear to be in situ and which appear to be foundations. However, excavation or clearing would be needed to get a better sense of the structure.

**30** Marchand 2008.

**31** Curtius 1852, 502; 505 (transl. from the German).

road (its location is not marked on fig. 12, but it is directly north of the hair-pin turn in the road just northwest of the ancient city). Near this church surface fragments of Late Roman pottery can be found, including LR II amphora fragments, large pithoi rims, and numerous blocks brought for re-use from the city of Kleonai. Although there is nothing to indicate that any of the more ancient building material was originally used at this site, the Late Roman ceramics may represent a small household or stopping place along the road and at the spring in that period<sup>32</sup>. This was the route taken by residents of Hill house on trips by foot from Corinth directly to Nemea in the 1960s and 1970s, and on such a trip, a stop at the Platania spring would be most welcome, particularly since this route bypasses the spring at Aghios Nikolaos/Kurtessa<sup>33</sup>. The ease of this route for travel between the spring at Platania and the Longopotamos pass is additionally clear from the frequent use made of it by residents of Kondostavlo to reach modern Spathovouni at the southern egress of the pass; it is likely that this is the route implied in the name Phliasian for the gate at Corinth through which the Corinth – Argos road departed.

#### *Date*

It is notoriously difficult to date a road; that difficulty is compounded here by the difficulty of confirming and dating the potential roadside features. Pikoulas dated the Kleonai – Nemea road represented by his ruts back to the Classical period, based in part on the passage of Thucydides 5, 60 cited above. To this can be added the previously mentioned likelihood of a direct road between Kleonai and Nemea in the Classical period, when the Kleonaians were custodians of the Games, and the fact that the road was surely used to transport stone to Nemea at least in the 4<sup>th</sup> century B.C.; if one accepts that the early sanctuary of Zeus also utilized Kleonaian stone, the date of a cart road over the Mantzoraïka can be pushed back to the Archaic period<sup>34</sup>. Moreover, Pikoulas has argued more generally that roads represented only by smoothed bedrock and cut wheel ruts in Greece represent pre-Roman roads: unlike the Greeks, the Romans engineered and prepared roadbeds across open ground, and in general they had little interest in major road construction in the Peloponnesos. By the Byzantine and Tourkokratia periods, most transport was conducted by pack animals, and roads constructed specifically at that time tend to be cobbled *kalderimia*<sup>35</sup>. On roads represented by wheel ruts, Lolos says

»in some cases, perhaps most, where the nature of the soil allowed it, these grooves were intentionally cut as indicated by their shape and depth. The existence of these ruts along any segment of the road constitutes the ultimate proof that the road goes back to the Greek period as opposed to the Middle Ages or the Tourkokratia, for, as I argue below, in the latter periods both the absence of wagons and the paucity of financial means would hardly justify the creation of new cart roads or the repair of existing ones.«<sup>36</sup>

**32** It is impossible to get an idea of the amount or nature of the activity here from a surface investigation, since the scarps created by the widening of the road show that there has been a significant amount of soil deposited over this Late Roman level. The material that I found was primarily located in a deep cut behind the church which had been created for the planting of a vineyard.

There appear to be some burials behind the church, and ancient blocks have been hollowed out for use as troughs to water animals, suggesting that the spring here was a roadside stop associated with the water source at least in the early modern period.

**33** Itineraries of these trips logged by R. S. Stroud are available in the library at Hill House in Corinth; he graciously

traveled this route with me and confirmed that it does indeed coincide with the one used by members of the Corinth excavation staff to travel to Nemea by foot.

**34** See *supra*, n. 20.

**35** Pikoulas (1999, 249–255) outlines the basic differences between Greek, Roman and Turkish roads.

**36** Lolos 1998, 1.

He also draws attention to the phrase to cut roads used by Thucydides (2, 100, 1–2) to describe the military activities of king Archelaus: καὶ ὁδοὺς εὐθείας ἔτεμε<sup>37</sup>. All of the roads discussed here fit this description of pre-Roman roads in that they consist of beaten paths and patches of shaved back or smoothed down bedrock into which wheel ruts have been deeply incised, either because they were purposely cut to create a track, or as the result of long use and wear<sup>38</sup>. Since all of the roads discussed here represent continuations or branches of the Kleonai – Nemea road, one could argue that they should date to roughly the same period, although they could have been first prepared at any time during its usage. Caution demands that it be admitted that any dates offered for these roads can only be based on circumstantial evidence, but when the likely periods of use of these routes based on their destinations and roadside features are considered, a strong case can be made that they all likely date back to the Classical period (if not earlier). In the case of Road A, it is thus only possible to prove that there was a road for wheeled traffic leading toward Kondostavlo at some period prior to the modern age (A2–A9); because it appears to feed into Pikoulas' ruts and thus to be a branch of the ancient Kleonai – Nemea road, and given the expediency of the long-distance route (Route A to Aa to Ab) and the likely importance of the Platania spring as a source of water for the city of Kleonai at its floruit (Route A to Aa to Va), it seems safe to argue that Road A and its branches were all already in use prior to the Roman era of road construction in Greece.

#### *Axle Span*

It must be also noted that the axle span of 1,50 m measured for Road A does not correspond to that given by Pikoulas for the ruts he documented. Although he does not give a specific axle span for the ruts he found on Mantzoraïka, he states that the axle width for all of Greece was a standard 1,40 m, with an occasional plus or minus 0,10 m<sup>39</sup>. Pritchett likewise provides a summary of reported wheel ruts and axle spans; he also concludes that although there was variation, most of the roads which were certainly arterial had a standard gauge of approximately 1,40 m<sup>40</sup>. In many cases it is difficult to determine the axle width of a road even when parallel ruts are preserved, since wheel ruts are often wide and rippled. Additionally, it is not often the case that the ruts for both wheels are well preserved parallel to each other. In some cases, where there is evidence for more than one overlapping track, it is also not always possible to determine that ruts which appear to form a set are actually a matched pair and not one rut of one track and another from an overlapping, secondary track, particularly since these tracks often overlap by approximately 10 cm. However, in the course of work on the Drymoni ridge I have located

**37** Lolos 1998, 3; see his 1–6 for additional ancient references to Greek road construction and the extensive use of wagons for transportation.

**38** Even if we assume that all the ruts documented here result entirely from wear, their dimensions suggest that the roads were of long duration. It must be said that it is extremely difficult to determine whether a wheel rut is entirely the result of wear, or whether it was originally purposely cut and subsequently worn smooth from use, and it is impossible to date precisely ruts resulting entirely from

wear. There are a few ruts on the ridge which were definitely purposely cut into the bedrock: on the upper sides of these ruts, tool marks are still visible, but in the deepest central well of the ruts, usage has worn the ruts smooth. Unfortunately none of the ruts in which tool marks are visible belong to the roads in question (they belong to quarry access roads), but they do show that there was purposeful road construction on this ridge at the time of active quarrying (i.e. Archaic – Hellenistic eras). It is very rare for tool marks to be preserved within wheel ruts,

and it is probably precisely because there were so many individual quarry roads utilized for only short periods that some tool marks survive; a well utilized road is unlikely to preserve tool marks. Many of the ruts documented here are extremely deep and U or V shaped, as though purposely created and then worn smooth. Rippled or doubled tracks were no doubt created by slippage and are the result of wear.

**39** Pikoulas 1995, 22 and n. 36, and 353.

**40** Pritchett 1980, 167–181.

hundreds of sections of wheel ruts. In every case where it was possible to measure with accuracy, the axle width was approximately 1,50 m. Since many of these ruts crossed uneven terrain, some deviation in the distance to accommodate an angle between the left and right rut may explain cases in which the axle span appears to be less than 1,50 m, but I suspect that the actual wheel span was a standard 1,50 m for all of the ruts in the Kleonai region, and suspect that in some cases where ruts 1,40 m apart have been recorded, ruts belonging to different tracks have been associated with each other. This is particularly likely to be the case with Pikoulas' ruts on Mantzoraïka, where the large number of overlapping tracks makes the 1,40 m axle width impossible to confirm (or refute). At any rate, there are numerous places at Kleonai where the 1,50 m axle width is absolutely clear (road section V5 below, e.g.). A difference of a few centimeters could be argued (i.e. that the exact span was 1,48 m or 1,49 m), but a span of 1,40 m cannot be argued for the majority of the ruts at Kleonai. Wheel ruts in heavily compacted road metal with an axle width of 1,50 m have been found in front of the temple of Zeus at Nemea and west of the temenos of Opheltes; both date to the 5<sup>th</sup> century B.C., or perhaps even to the 6<sup>th</sup> century B.C.<sup>41</sup>. Pikoulas himself notes that ruts located in the Tretos pass appear to have an axle span of 1,50 m; he calls this an anomaly requiring further study, but this width corresponds to that of the other roads found in Kleonaian territory presented here, and any ruts in the Tretos pass are likely to have been part of the Kleonaian and Argive road system<sup>42</sup>. I thank Dr. Y. Lolos for assisting me in double-checking the measurements of a sampling of the newly discovered ruts at Kleonai; where certainty is possible, all display an axle span of 1,50 m<sup>43</sup>. Given the number of parallel tracks allowing precise measurements preserved here, a reconsideration of the evidence which points to a standard 1,40 m axle width for Greek roads is in order.

### II.II. Road Two: Leake's Channel Road to Nemea (Road L)

#### *Documentation*

Evidence for the next road also begins just east of Pikoulas' ruts, and is discussed from west to east (L1–L18; figs. 4–6. 12). This road begins on the top of the cliff on the southern side of the stream and ravine above Vrysoules, opposite the road through Amalia Mougiou's property. It is traceable in sections for over ½ kilometer, heading in a very gentle downhill course northeast along the top of the ridge and then turning to descend slowly down its southeastern slopes. It consists of very wide ruts (up to 0,40 m) and is accompanied for most of its length by a square-in-section rock-cut channel running parallel to the road on its uphill (western) side. This channel has a very gentle average slope of only 0,08 m over its entire preserved course. Because the road and channel are so closely associated, they are both documented together as Road L.

On the top of the Mantzoraïka plateau, the surface bedrock has been broken up by the daily pasturage of goats from the Mougiou fold over the region and from severe erosion (evident from the bright red color of the rock and surrounding soil, indicative of the breakdown of the limestone). The first traces of the road (L1–L6) therefore consist of numerous short, isolated segments of wide ruts, many of which are rippled in section (fig. 13). In this area, where both ruts are preserved, the ruts are either not strictly parallel to each other or too wide to allow for the axle width to be accurately measured. Here, too, the course of the road is overgrown, and thus it is often difficult to determine which rut is preserved when only one can be located, but generally the

41 Miller 1983, 92 f.

42 Pikoulas 1995, 22 and n. 36, and 61.

43 He has similarly found evidence for a common axle span of 1,50 m in Sikyon (to be published in forthcoming *Hesperia* supplement 39).



Fig. 13 Looking northwest over Leake's road section L6; arrows mark some of the most prominent wheel ruts. The two large trough-like ruts of the road are particularly discernable on the exposed limestone in the background; a tape measure runs down the center of the southernmost rut

left/NW rut is deeper, presumably since the road here is curving, and carts traveling east and downhill would be turning with the weight on this wheel (as at L1, where this rut is also doubled, with traces of an additional rut merging with it at a slightly different angle. This may be a turn-out, or the result of heavy-laden carts attempting to navigate the turn). The road is generally not well preserved until the point at which it begins to descend from the ridge, since the ruts are naturally deeper on the steeper grade (L7 and following).

At section L7, the road makes its sharpest turn and most sudden drop in elevation. Here segments of both ruts are preserved over a distance of 10 m, and the road descends approximately one meter over the course of 1,50 m in distance. At this point, both ruts are at least 0,40 m wide and 0,20 m deep. The right/southern rut is relatively rectangular in section, the left/northern rut is U-shaped. Just 0,80 m south of the right/southern rut, there is a smooth area which resembles another rut of the wide, blurred type which is preserved alongside the road in intervals but at a uniform distance; this may be heavily destroyed remnants of the water channel which begins to be well preserved parallel to section L9. The left/northeastern rut is often deeper, since this is the rut which would have borne the greatest weight on carts going in a downhill direction. Over the 16 m between sections L7 and L8, the faint outline of the left/N rut can be discerned curving to the southeast.

Section L8 consists of segments of both ruts over a distance of 16 m (figs. 14. 15). In this section, there are traces of an overlapping track up to 0,50 m to the right and left of the main ruts; it is also a feature of Pikoulas' ruts that there is often more than one track along the same road. Faint indications of a smooth area perhaps representing the vestiges of the water channel (which soon becomes apparent) also follow this section of the road to the right/southwest<sup>44</sup>.

At section L9, the rock-cut water channel parallel to the road can first be definitely identified (figs. 16–18). The surface of the road itself is not well-preserved, but its location is clear from the smooth, worn surface of the limestone bedrock. Here the water channel is preserved for a distance of 17 m (it is 0,50 m wide and 0,25 m deep as preserved, and approximately 0,70–0,75 m west of a line extended on the trajectory of the right/western rut of the road at section L8). It runs in a very straight course, making only one slight jog to the east at 4,50 m, and then continuing on the same, previous trajectory. After

<sup>44</sup> Additionally, there is a roughly circular hole in the stone near the ruts. There are many of these holes along the route, but they seem too shallow to represent post holes of the type used in conjunction with quarry sledges, and if they are purposeful cuttings, their purpose is unclear.



14



15

Fig. 14 Looking north (west) over the northern end of road section of L8; more than one track can be discerned

Fig. 15 Looking north over the southern half of road section L8

Fig. 16 Looking south over Leake's road (L). In the foreground (right), some ruts of L8 are visible. In middle distance (to right), channel section L9 is visible

Fig. 17 The northern half of L9, looking northwest

Fig. 18 The southern half of L9, looking northwest



16



17



18



19

section L9, all trace of both the road and the channel disappear for approximately 45 m, but the topography of the slope at the point directly beyond the channel indicates that both must have made a curve to the east and then south to circumvent a rocky outcropping (fig. 19). Much of the limestone bedrock exposed in the area east of the outcropping is worn smooth; no doubt the road ran here. Further south, the course of the road and channel has been disrupted by the construction of the modern pipeline taking water from Stymphalos to Corinth which crosses the road's path.

Beyond the disturbance from the modern pipeline and beneath rubble dumped during its construction, a 14,5 m stretch of the water channel emerges and can be traced at L10 (fig. 20). Here it is 0,44 m wide and 0,30 m deep, with vertical walls and a smooth floor. The road is also preserved in the form of sections of both ruts over a distance of 21 m (L11; fig. 21). Here again the ruts are very deep (up to 0,20 m) and wide (up to 0,24 m), and the left/northern rut is more U-shaped in section than the right, perhaps a result of the constant turning of the road toward the south, which would stress the outer/NE wheel on carts going downhill. The axle width can be measured as 1,50 m, and again the right/southwestern rut is 0,80 m from channel section L10; traces of secondary, parallel tracks can be observed to either side of the main ruts.

Section L12 is a short, 1,40 m long section of the water channel (fig. 22). It is 0,45 m wide and 0,39 m deep, and here it is located not directly adjacent to the road but 0,60 m above it. This is the only section of the water channel preserved which is not roughly parallel to the road; instead, it is perpendicular to the roadbed and significantly above it. It is on a very different trajectory from the previous channel section L10; at some point after L10, where the channel is not preserved, it must have made a jog to the south and then to the east. At the eastern end of this channel section, there is a vertical drop of 0,60 m to the level of the roadbed, which is discernable as a smooth area of bedrock which lines up with L11 above (no clear ruts are preserved at this point). Additionally, L13 represents another section of the water channel which is to the right/southwest of this roadbed and parallel to it, and at the same, lower elevation. Thus it appears that the channel took a slightly different course from the road in section L12, in order perhaps to slow the rate of the water flow by making a jog, so that at the end of L12 it could cascade freely into channel section L13 below without spilling out of the channel and flooding the road.



20



21



22

Fig. 19 Leake's road to the south of L9. No distinct ruts are preserved here, but the smooth bedrock and the topography indicate the route of the road

Fig. 20 Channel section L10

Fig. 21 On the left, one of the wide ruts of road section L11; channel section L10 is just visible in the upper left hand corner

Fig. 22 A close-up of channel section L12



23

Fig. 23 Channel section L14. Although the channel is here full of soil, it can be clearly seen; its western wall is exposed to a greater height than its eastern wall, but enough of the eastern wall is exposed in patches to allow the width of the channel to be measured. The road runs to the east/right; some of the smooth bedrock of the road surface is visible



24

Fig. 24 The northern part of channel section L14 (left) with one rut of the road visible to the right. Much of the rut is still filled with soil; a small portion was cleaned to measure its full depth



Fig. 25 The quarry floor immediately west of and above road section L14

25

Beyond channel section L13, there is a gap of approximately 80 meters over which no sections of the road or channel are visible in an area overgrown with shrub oaks and pine trees. To the south, where the vegetation thins out, a long section of both the channel and the road parallel to it can again be found (L14). Here the channel is preserved over a distance of 21,80 m (fig. 23). It is still filled with soil, but both of the vertical side walls are visible for its entire length; as exposed, it is up to 0,30 m deep, and it measures 0,55 m in width. Here the road is primarily represented by what must be the left/northeastern rut of the road; it is 0,25 m wide and 0,10–0,15 m deep, and it runs approximately 2 m to 2,70 m to the east of the channel (fig. 24). There are additional traces approximately 1 m to the east of the channel which may either represent the main right rut of the road, or part of a secondary track. This section of the road passes 30 meters below a beautifully preserved quarry floor, and it must be remembered that much of the ridge was surface quarried; this is certainly true of much of the hillside both above and below this section of Road L (fig. 25).



26 a



26 b

Section L15 represents another stretch of both the water channel and the road. It is particularly significant because it is the only place in which the relationship between the channel and both ruts of the road is completely clear, since all three elements are preserved exactly parallel to each other. This section of the channel is preserved for 19 m; again it is filled with soil, and for the first 3 m of its length, only the left or right vertical wall is exposed; thereafter both walls are visible. The width of the channel is still 0,55 m, the exposed depth 0,26 m (fig. 26 a. b). The right/southwestern rut is visible over 8,30 m, parallel to the channel and 2,10 m away from it. The left/northeastern rut is preserved only in patches (the longest of which is 0,40 m); the axle width can be measured here as 1,50 m.

Beyond these ruts, the ridge becomes increasingly overgrown. The prickly oak on the slopes is only penetrable where goats have created paths, and therefore additional parts of the road and channel may well be preserved where it was not possible to search. At L16 to the south, there are multiple wheel ruts over a distance of 11,50 m; these ruts are close together and all appear to represent tracks for the same wheel; they are likely to have resulted from the slippage of the wheel on the sloping side of a large outcropping of limestone, since the ruts are in two levels and have a rippled, wavelike appearance in section. A section of the channel in the form of its right/southwestern vertical wall is also visible for 1,50 m.

At section L17, both the road and the channel are again traceable in segments over a distance of 29,80 m. The right/southwest rut is extremely wide and smooth, with a perfectly U-shaped section; the channel is traceable approximately 2 m from this rut for 11 m. Section L18 is the last visible section of the road and channel; it is only exposed because it is crossed perpendicularly by a goat path, so that only a small area has been cleared of vegetation enough to expose the northern wall of the channel for 2,20 m, and a 0,60 m stretch of the wide, rippled right/southern rut 2,20 m north of the channel. Although there could well be additional sections of the road and channel to the southeast, the road is approaching the point at which agricultural clearing has progressed up the slopes of the ridge. Where deep plowing has occurred, all potential traces of the road will have been destroyed.

Fig. 26 a. b a: General view of road and channel section L15; some of the smooth surface of the road is visible to the right of the channel. – b: The large, southwestern rut of the road has been cleared for a short distance; it is 2,10 m from the northeastern edge of the channel. The northeastern rut is exposed in patches along the right side of the bedrock outcropping (near scale, e.g.); the axle span is 1,50 m

### *Discussion*

This was clearly a heavily utilized road. The wheel ruts are exceptionally and consistently wide and deep, particularly at the top of the ridge where the road makes a wide, curving turn, and where the slope of the road is the steepest. The road was used to transport blocks from the quarries, since virtually the entire slope of the ridge above the road was quarried, and the road itself runs past well-preserved quarries. The transport of heavy blocks alone could explain the depth of the ruts, but the ruts themselves do not display the same degree of blurring and deviation from slippage as do those of many of the other roads which were certainly quarry access roads. However, the road also displays the same doubling of the track and the same consistently wide ruts as Pikoulas' ruts. This road most physically resembles a continuation of Pikoulas' ruts, and the general appearance of this road is that it was heavily used both for quarrying and for other transport and travel. It has the appearance of a main road.

I find it difficult to explain the function of the rock-cut channel as anything other than an aqueduct. It does not seem possible that the channel was meant to drain the road; in such a case, one would expect it to be located on the slope below rather than above the wheel ruts. It is also hard to see how such a channel would be effective or necessary enough to warrant the work involved in creating it for a road that was not paved. Additionally, the deviation and elevation of the channel at L12 make no sense if its function was to drain the road. Indeed, it would almost appear destined to flood it. This section of the channel must have been designed to aid in feeding the water from a higher elevation down to the level of the road. The actual subsequent parallel section of the channel is not well preserved at the point directly below and at the junction with this in-feeding section. It is therefore possible that there was at one time some sort of built receptacle at this point that collected the water and eased its transition in direction and height. However, it is also possible that the water was simply allowed to free-fall into the channel below<sup>45</sup>.

More disconcerting is the great variation in depth of the channel itself (although the width of the channel is relatively unchanging at 0,44–0,55 m). Where it first appears at the top of the ridge (section L11) it is only approximately 0,25 m deep. At other sections further down the slope it attains a depth of 0,55 m. This variation is hard to explain unless the channel were meant to carry some sort of built element, like a pipe or a terracotta channel, or were necessary to ensure the downward flow of the water. There is no evidence that either of these was the case. I found no evidence of construction within or around the channel, and no traces of broken sherds from water pipes. The use of a water pipe within the channel is made more likely by the observation that the channel is not continuous as now preserved, and destruction of the bedrock to such a degree as to allow the reconstruction of a continuous channel of consistent height over the entire course of the road (and beyond, if we consider the absence of a convenient water source) would have to have been quite vast. However, the channel itself seems too carefully cut to have been intended only to hold a pipe in place, so it seems that such a vast destruction should probably be imagined; the variation in depth of the channel might then be explained by an increase in the expected volume of water as the channel descends the ridge, and certainly large stretches of the roadbed appear to have suffered similar destruction and wear.

Both the source of the water and its ultimate destination are also unclear. The length and depth of the channel indicate that it carried a significant amount of water, as do the gentle slope and the efforts to slow the water with a deviation at section L12. There is now no spring on the plateau near the

45 A modern parallel can be found near the village of Platani between Stymphalos and Nemea. A cement, square-in-section aqueduct near the town leads straight to the edge of a deep ravine. The water is allowed to cascade down the ravine like a waterfall for a great distance, where it is then again directed on its way in another cement channel. Although some of the water is thus no doubt lost, it is not significant enough to warrant a more structural design. I thank Stephen Miller for pointing out this parallel.

origin of the road and channel, nor do Kondostavlo residents recall any spring in the area. However, there may have been some sort of gathering and holding tank or source of water somewhere further afield, on the top of the Drymoni ridge either to the north or west, whose connection with the channel has now disappeared. Abandoned quarries were often used as reservoirs; one look at the excavated quarries along the modern Corinth – Tripolis highway flooded naturally with water in the spring explains why. It is possible that some of the quarries either above on Drymoni or below along the valley edge were originally connected with this water system at one or the other end of the road. There are no well preserved quarries now which form likely candidates, but it is clear that we no longer have all the evidence for the extent of this system.

The date of the channel is also problematic. Such works, when no accompanying datable finds are available, like roads are notoriously difficult to date based on construction style alone. Other rock-cut aqueducts found in Greece have been dated anywhere from the Mycenaean to the Turkish period<sup>46</sup>. The channel pre-supposes the existence of the road to provide access for its construction and its subsequent maintenance. The relatively uniform distance between the channel and the ruts of the road suggests that the road was still in regular use when the channel was cut, but it is impossible to determine whether the channel was constructed at the same time as the road or at a later date. The date of the channel would also seem to depend in part on its destination: if it led to the city of Kleonai, an earlier date would be likely. If it led only down to the plain to provide water for agricultural use, perhaps a late Roman/early Christian date would be more likely. However, I tend to believe that the road and the channel were constructed at the same time, and contemporaneously with the quarrying on the ridge. The construction of the channel represents a significant investment of labor, but a minimal one compared with the labor represented by the quarrying works. The same skills required in cutting the limestone blocks would be required for cutting the channel and smoothing the roadbed, and I find it most reasonable that the channel was cut when the tools, skill and labor were readily available from the quarries to be used for other public works. It is also hard to date quarrying activity, but the excavated section of the quarries on Drymoni was in operation between the 5<sup>th</sup> and the 3<sup>rd</sup> centuries B.C.; based on the evidence of inscriptions and monuments utilizing Kleonaian limestone both at Kleonai and at Nemea, the date range can reasonably be expanded to begin in the Archaic period and end, or at least slow significantly, in the late Hellenistic period<sup>47</sup>.

**46** Both extremes of date are unlikely for this channel: this does not resemble any Mycenaean construction, but also there is no construction in or around the channel suggesting use or re-use in the Turkish period. For dates of other rock-cut channels, see: Kienast 1995, 187, who dates the elaborate and well-known system at Samos to approximately 550 B.C. A rock-cut channel very similar to the one on Drymoni can be found in Troizen, but to my knowledge it has not been published. Karouzos (1926) discusses an ancient aqueduct cut in soft poros bedrock starting approximately 2 kilometers south of modern Thebes on a low hill 7 m east of the Thebes – Athens road. The channel is rectangular in section, 0,40 to

0,60 m wide, and reaching depths from 1,20 to 3,00 m, and it is fed by a number of subsidiary channels. The entire system can be traced for 1000 m, and no traces of water pipes were found. The investigators suggest a date anywhere between the first half of the fifth century and the Roman period, and they suggest that this is perhaps a Hadrianic work. Bakhuizen (1985, 73–75) discusses a rock-cut aqueduct beginning 25 kilometers north-east of Chalkis. It is traceable for 500 m. It is 1,28 to 1,60 m wide, with tapering walls, cutting through the rock in some places to a depth up to 7,50 m. In some sections there are rock-cut ledges on the walls of the channel, which occasionally carry a vault built of stones and mortar

(elsewhere the vault is built into the channel itself). This appears to be part of a system leading across the Lelantine plain and traversing the city are of ancient Chalcis to supply the later *kastro*. It has been interpreted as an entirely Turkish construction.

**47** Pachyianni-Kaloudi (1991) notes that »traces of tool marks, separation channels, methods of cutting lifting tenons, the sherds and the twelve coins of Sikyon which were found in the excavations, place the use of the quarry, at least for the section exposed, in the 5<sup>th</sup> through the 3<sup>rd</sup> centuries B.C.« (translated). These dates, however, can strictly speaking only be taken as secure for the small, excavated section; the

Following the reasoning presented for the dating of roads above under discussion of Road A, Road L can probably be dated back to the Classical period, inasmuch as it appears to be a continuation of the road represented by Pikoulas' ruts, its roadbed consists entirely of smoothed stone surfaces, and the channel appears to be an aqueduct meant to provide water for the city of Kleonai. Moreover, the late Roman/early Christian community at Kleonai appears to have been rather diffuse, no longer centered on the city site, and it is unlikely that they were actively quarrying the ridge<sup>48</sup>. I therefore would favor a Classical or Hellenistic date for both the road and channel. In style, this aqueduct most closely resembles one feeding the city of Amphipolis, dated by Pikoulas on historical grounds to the 4<sup>th</sup> century B.C.<sup>49</sup>. Such a date would probably also be a reasonable guess for this channel and road<sup>50</sup>.

Route L to La (fig. 12):

It is clear that both the road and the channel did not end to the east at the point where our physical evidence ends. All trace of both features merely disappears into thick oak brush. Based on the topography of the ridge, the most natural course from L18 would be for the road to continue to descend at the same gentle slope while following the contour of the foothills of the ridge, until coming down into the Kleonai plain just west of the isolated hill known locally as Skitsa (figs. 3, 12). In antiquity, from this point, the road likely continued virtually due east to intersect with the Corinth – Argos road, with an additional branch leading northeast, to the city of Kleonai (Routes L to P to Pa or Pb on fig. 12; these routes will be discussed below, once additional evidence from the Kleonai plain has been presented). However, it is clear that in the Early Modern period, there was a branch of Road L which crossed the valley following a more southeasterly course. It likely passed in a depression west and south of Skitsa rather than north and east, hugging the edge of Drymoni, and thus giving access to the quarries which existed all along the eastern slopes of the ridge out to the easternmost tip. This branch joined the Corinth – Argos road south of Aghios Nikolaos/Kurtessa (Route L to La; fig. 12).

remaining quarries could span a much longer time period. The most reliable method of dating quarries which have not been excavated is to identify build-ings of known date whose material can be shown to originate from those quarries (Waelkens et al. 1988, 92, and Hayward 1999, 92. This is the method used by Peschlow-Bindokat 1990, 11 to date the Selinus quarries). Material for the 4<sup>th</sup> century temple of Zeus certainly derived from these quarries, as did probably stone for the Archaic temple, dating to the first half of the 6<sup>th</sup> century B.C. (supra, n. 20). By the end of the 6<sup>th</sup> century B.C. most major quarries of the Greek world were already fully active and some had already reached impressive proportions (Waelkens et al. 1988, 92); a 6<sup>th</sup> century date for the opening of the Kleonai quarries is therefore not unrealistic, and inscriptions in the Kleonaian epichoric alphabet now housed in the Nemea museum utilize this characteristically reddish stone (Dedication of the Kleonaian Aristis, SEG XI 290,

dated to ca. 560 B.C., e.g.; the temple of Herakles (discussed below) now dated to ca. 200 B.C. is the latest datable Kleonaian structure for which limestone from the Drymoni ridge was quarried, but much of the polis has not been excavated.

**48** Instead, they appear to have preferred using readily available material robbed from the ancient city; the large Late Roman/Byzantine establishment outside the city limits and north of Kurtessa at the toponym Varela, consisting of an agricultural villa of the 3<sup>rd</sup> to the 6<sup>th</sup> century A.D. with a small bath complex and a surrounding settlement, is built of re-used material, and the blocks from the city at Evangelistria have already been mentioned above. Varela was partially excavated, but only a brief report for one season appeared: Moutzali (1984). This report mentions that salvation excavations were also carried out at the site in 1980, but I could find no report for that year. Use of the site continued into the Byzantine era, and the Byzantine sector

was dug by Dina Kaza-Papageorgiou, but I could find no report from the Byzantine ephoreia; see also Gregory 1994, and Marchand 2002, 122. 130 f. 140. 347. 425. 435–441. 444, and 514.

**49** Pikoulas 1990/1991. Notable because of its proximity is also a rock-cut tunnel leading to the source of an aqueduct feeding the bath house at the sanctuary of Zeus at Nemea; Miller (in Birge et al. 1992, 220–232 figs. 310–324) suggests that the tunnel may have been constructed at the same time as the bath and aqueduct project in the 4<sup>th</sup> century B.C.

**50** It is also just possible that this channel in some way relates to the Hadrianic aqueduct, the main portion of which is located much further to the south. This channel could have continued all the way to the foot of Rachi Mantzorou or even modern Aghios Vasilios to feed into the main aqueduct. Y. Lolos has traced the exact course of that aqueduct; it crossed a

The hypothesis of such a branch of the road is based on the accounts of the early travelers, many of whom appear to have used such a route to travel from Kurtessa to Nemea. The account of Mure, Earl of Caldwell makes this most explicit. He is traveling south from Corinth, and after passing Aghios Nikolaos/Kurtessa, he writes:

»About a half mile further on [from Kurtessa] there is a division of the road, at the extreme point of a low hill, which here juts forward toward the Khan from the great Nemea range, now rising in heavy dark masses in front of the traveller. *The track to the right of this eminence* leads direct to the ruins of the Nemea temple, that to the left is the high-road to Argos, from which, however, there is also a branch to the plain of Nemea, a few miles further on.«<sup>51</sup>

The »extreme point of a low hill« must be a reference to the easternmost tip of Drymoni. This is the end of a long spur which descends and spreads out from the main ridge into the Kleonai valley to the east; the Corinth – Argos road hugs the tip of this spur, skirting it just before entering the Tretos valley (fig. 12). Mure even describes it as jutting towards Aghios Nikolaos/Kurtessa; and indeed, the tip of this hill and the quarries located thereon is the next landmark on the Corinth – Argos road south of Kurtessa. What Mure calls the Nemea range must be the entirety of the Drymoni ridge and the Mantzoraïka plateau separating the Kleonai and the Ancient Nemea valleys<sup>52</sup>. The spur ridge itself is covered with quarries, the deepest of them now located along the northern side of the spur and thus edging the southern portion of the plain immediately south of the ancient city. A major quarry access road into which others funneled runs down the full length of the spur; the eastern section of this quarry road is marked on fig. 12, but others are also preserved which descend the slopes toward the plain to both the north and the south. Although no ruts are preserved in the ploughed land surrounding this spur and its associated foothills, the quarry roads must have fed not only into the Corinth – Argos road, but into a road or roads just north of the eastern end of the spur<sup>53</sup>; Mure clearly indicates that a road heading west for Nemea in the 19<sup>th</sup> century ran along its northern edge, here where it extends east into the Kleonai valley (La).

Aldenhoven, traveling from Nemea to Corinth (and thus in the opposite direction and west to east), also traveled along the northern side of Drymoni's eastern spur to reach Aghios Nikolaos/Kurtessa:

»Leaving the route and going to the left at the foot of a mountain, there are ancient houses cut into the mass (of the mountain); some of them are covered by rubble, others have wooden roofs, today they are not all abandoned, in some one sees notches cut right into the rock to receive pieces of framework. Near these are the ruins of many modern monuments which were built out of ancient fragments; there is a Roman architrave. The Khan of Kourtesa where there is a police station is only a little ways away; the hamlet contains a church which is made of ancient debris.«<sup>54</sup>

much more southern part of the Rachi Mantzou and followed the base of the Trikorphon range near the modern village of Aghios Vasilios. See Lolos 1997.

**51** Mure 1842, 142 f. (my italics); the branch he mentions is one of the two roads leading north from the Tretos pass directly to Nemea (supra p. 6 and n. 13).

**52** Mure, however, did not immediately take this road; apparently he initially missed it and had to backtrack by crossing over the low, eastern spur of Drymoni, and in his account he appears occasionally confused about the compass direction (Mure 1842, 144).

**53** For documentation of these quarry roads, see Marchand 2002, 276–337.

**54** Aldenhoven 1841, 397 (transl. from the French). Aldenhoven describes the same route more generally just prior to the quote above: »From Nemea the road goes to the east. A countryside broken up by mountains and ravines precedes a plain where there are visible caves and stones cut to serve as habitations. From here there is a good view of Acrocorinth.«



27

Fig. 27 Quarries near the eastern tip of Drymoni adjacent to the Kleonai plain and the projected route of Leake's road (La). Many are still used to support or house agricultural equipment, or show signs of having been modified into storage sheds or animal pens in modern times



28

Fig. 28 A roughed-out central support in one of the possible cave-like dwellings among the quarries at the eastern tip of Drymoni

The houses cut into the mass of the mountain mentioned here by Aldenhoven must be the habitations in the ancient quarries mentioned also by Curtius:

»On the west side of the valley rises a hill of medium height and gentler slope, by which in earlier times the Khan of Kurtessa stood near a spring. At the base of this hill extend the ruins of ancient houses hewn in the rock; polygonal city walls surround its summit and signify the city as the ›well-built‹ Kleonai of Homer. *Fifteen stades to the south of these ruins, which deserve closer study, is the slope of the mountain into which ancient stone quarries were cut, which seem to have been used as places to live.*«<sup>55</sup>

Although he mentions seeing ancient houses hewn in the rock within the limits of the ancient city itself, Curtius also mentions quarries used as habitations fifteen stades to the south of the city, i.e., on the eastern spur of Drymoni; Aldenhoven describes seeing houses cut into the mountain immediately before he turns left at the foot of a mountain and heads north for Kurtessa<sup>56</sup>. Indeed, in this area, near the marked quarry road at the extreme northeastern tip of Drymoni, where it extends into the plain and toward Kurtessa, there are quarries which have been clearly modified into what could have easily served as cave-like dwellings, and others consist of three rock-cut walls, requiring only a simple roof to make a structure. The possible quarry-dwellings continue to the west, along the trajectory described by the travelers as heading for Nemea; many of these are still ›modified‹ by the additions of poles, planks and brickwork to serve as agricultural sheds and animal pens (figs. 27, 28). There is also some surface pottery, including pithos bases and fragments of medieval sgraffito, in the vicinity of these quarries.

Just as Aldenhoven indicates that the Kleonai – Nemea road he utilized passed along Drymoni and approached Aghios Nikolaos/Kurtessa from the south, many of the early travelers coming from the direction of Corinth indicate generally that they continued south from Kurtessa before turning right or west for Nemea, though their accounts are less explicit about the exact location of the turnoff than Aldenhoven's and Mure's. After Kurtessa, Leake says:

»... it appears that anciently three roads radiated from Cleonae ... [a mountain route past Aghios Vasilios to Mycenae, the Tretos route, and the road from Kleonai to Nemea] ... This road [to Nemea] I now follow and cross a stony ridge which appears to connect the mountain of Ai Vasili with Mt Fuka, or Apesas, three miles on the right, though in reality the ridge is separated from the former mountain by the Tretus.«<sup>57</sup>

Leake's description of the stony ridge is clearly a reference to Drymoni and the Mantzoraïka plateau. From this part of his account, however, it is only clear that he turns off the Corinth – Argos road to head west somewhere near Kleonai

55 Curtius 1852, 505 (transl. from the German; my italics).

56 Other travelers put the quarries at 15 stades from the ancient city and Kurtessa, which is outside the ancient city limit but parallel to its southern end: »At 15 stades below the Khan of Kourtesa, one sees on the flank of the mountain the ancient quarries which served the inhabitants (Puillon Boblaye 1835, 41).« Aldenhoven elsewhere (1841, 397) also gives this distance: »At 15 stades further from the Khan there exist on the flank of the mountain the ancient quarries which served as habitations.«

57 Leake 1830, 327–329.

and Kurtessa (which he describes) and north of the Tretos valley. It is Leake's subsequent account that most clearly corresponds to the physical evidence for this road. After turning off for Nemea, as quoted above, he says:

»... at 11.35, on the rise of the ridge there are several natural caverns on the right of the road. These may have been the abode of wild beasts when the Nemeian forest covered all Tretus and Apesas, but none of them has any pretensions, if we follow Diodorus and Pausanias, to the honour of having been the favourite dwelling of the Nemean lion; that cavern was in the Tretus, between Nemea and Mycenae ... opposite to the caverns above mentioned, there is an artificial excavation in the rock and the road side, a foot and a half or two feet square; it was probably a conduit to convey water to Cleonae. It is traceable at intervals for a considerable distance up the ascent.«<sup>58</sup>

Leake specifies that he is at the top of the ridge when he looks right and sees the caves. These must be the caves in the cliff below Amalia's road. The »artificial excavation in the rock« must be the water channel. Leake says that this »excavation« is opposite, i.e. left, of the caves and the road, as is the channel. He gives it the same dimensions as the channel (it is 1,7 feet wide on average), and finally Leake specifies that it follows the road for a considerable distance up its ascent of the ridge. He even interprets it as a water channel taking water to Kleonai. Leake's observation of a water channel along the Kleonai – Nemea road has previously confused scholars. They assumed that either Leake was wrong, or that this was somehow a garbled reference to the Hadrianic aqueduct crossing the Kleonai valley much further to the south<sup>59</sup>. The discovery of this road and channel vindicates Leake's report and also makes his route to Nemea, at least at this point, quite clear. His interpretation of the channel as feeding the ancient city may also indicate that the channel was preserved over a greater distance in Leake's day, and that its ultimate destination was at that time clearer<sup>60</sup>.

I doubt, however, that the entire route taken by Leake and some of the other travelers as outlined above corresponds to a main ancient road. The easternmost portion of this route, specifically the section from the Skitsa hill to the tip of Drymoni south of Kurtessa, was probably not part of an ancient road to Nemea; it is possible that this branch of the road already existed in antiquity in the form of a series of quarry access roads, but these might have been strung together or utilized as a continuous road over the ridge only at a later date. However, there are a number of reasons why this eastern part of the route might have been added by the early 19<sup>th</sup> century, and preferred at that time to the earlier route of the road, which presumably headed more directly east and toward Kleonai. The first is that the ancient city was no longer the main habitation site. The destination of the road would now be the settlement of Kurtessa, around and just south of Aghios Nikolaos. Secondly, as Aldenhoven indicates, the quarries lining the northeastern slopes of Drymoni near the plain and near Kurtessa were still being used as places to live when he passed by in 1841. A road in the plain from Aghios Nikolaos and along this section of Drymoni would give access to both the settlement of Kurtessa and these residence quarries. Finally, local residents inform me that earlier in this century the area of the plain directly north of these quarries and west of Kurtessa was a marsh. This area is now dry, since the source of the water, the Kephalaria spring, has been tapped by the town of Kondostavlo to provide public water (fig. 12)<sup>61</sup>. If the area was indeed marshy in the 19<sup>th</sup> century as well, it may have impeded travel more directly across the plain from Aghios Nikolaos and required a more southerly route, closer to the Drymoni slopes.

58 Leake 1830, 329 f.

59 Bölte (1921) mentions Leake's observation without comment. This cannot have been the main part of Hadrian's aqueduct, but as mentioned above, it is just conceivable that this channel did feed into that system at some point.

60 See below, where the possibility that Dodwell also followed Leake's road is presented, but a different interpretation of his text is preferred.

61 One local resident also told me that large, square-cut limestone blocks had been removed from the vicinity of this spring; it is possible that there was some sort of fountain-house at one time at the spring before it was tapped, but I could not confirm this report.



29

Fig. 29 Looking northeast down the overgrown bed of the dry Vrysoules stream toward the cliffs at the edge of the Mantzoraïka plateau at the Drymoni ridge in the vicinity of ruts V3 and V4

Fig. 30 Ruts at section V4. At the north-eastern end of the rut (in the foreground to right), the rut forks into two; other traces of ruts on different trajectories here suggest that there was a turn-out in the road at this point



30

### II.III. Road Three down the Vrysoules Stream and Ravine: Road, Rock-Cut Channel and Cyclopean Retaining Wall (Road V and Channel C)

#### *Documentation*

The third road ran right down the center of the rugged streambed and ravine above the Vrysoules springs (V1–V5; figs. 4, 6). From west to east, small sections of wheel ruts perhaps relating to this road indicate that it branched off approximately 150 m east of Pikoulas' ruts, heading northeast, to enter the head of the streambed at its northwest corner (V1 and V2)<sup>62</sup>. Ruts clearly pertaining to this road begin in the bed of the stream, about 360 m northeast of Pikoulas' ruts and at the narrowest, deepest part of the ravine (V3). The road is traceable in stretches for approximately 100 m; beginning with V3, the preserved wheel ruts of the Vrysoules road are all much smaller, both in width and depth, than the ruts of the previous sections V1, V2 and Pikoulas' ruts. This can be partially explained by the observation that the limestone bedrock in this portion of the ravine is patchy and appears to be particularly hard, and the grade steeper than in sections V1 and V2 (fig. 29).

The ruts at section V4, within the narrowest portion of the streambed and following its orientation, are quite large (up to 0,20 m wide) and do not display blurring; this may be in part because of the harder nature of the limestone bedrock in this area, but the ruts are deep (ca. 0,10 m). The depth here may derive from the application of brakes to the carts in the form of binding the wheels, since the incline is relatively steep. At the northeastern end of one of the segments of ruts in section V4, there is a secondary rut near the main rut but at a different angle; this appears to represent a branching off of the main track, perhaps in the form of a turn-out (fig. 30). This road generally followed a northerly course, dictated by the orientation of the ravine and the protruding cliffs on its southern side, but as it neared the vertical drop over the Vrysoules springs, the road turned east to skirt very close to the southern cliff. Here, directly above the drop to the Vrysoules springs, the bedrock of the cliff face (on top of which runs Leake's channel road) has been shaved back vertically for a distance of 8,50 m to allow more room for the road to pass (fig. 31 a, b). Here the road makes a turn to the south in order to gain access to the gentler slopes below this cliff and descend to the plain. The bedrock below the shaved-back

<sup>62</sup> V1 consists only of traces of wheel ruts on a small area of eroding limestone protruding above the level of the surrounding dumped fill. It is not certain that these traces (V1) belong to the road running in the Vrysoules stream bed (V3–V5), but their orientation does suggest that they connected Pikoulas' ruts with the ruts at section V2. Ruts V2 are wide and deep, and cut in soft limestone. As with section V1, because of the plethora of ruts in quarried areas, it is not possible to prove that these ruts constitute part of the Vrysoules road. They could connect another side road with Pikoulas' ruts, or even head to Amalia's road, but this seems unlikely since the ruts would have had to cross the channel C (discussed below), assuming that the channel is in fact contemporary with the road.



31 a



31 b



32

Fig. 31 a. b Two views of the shaved-back bedrock adjacent to Vrysoules road section V5. The smooth bedrock of the roadbed is visible at the base of the shaved-back area in both views; on the left, the overgrown nature of the path beyond V5 is apparent

Fig. 32 Road section V5. The shaved-back, vertical bedrock is visible to the left; the smoothed road surface clear to the right. Only a small portion of the southern rut is visible very close to the bedrock; a longer section of the northern rut is visible to right

portion of the cliff face has also been carefully smoothed horizontally to form the road bed, and here at this precarious point both wheel ruts are preserved (V5; figs. 32, 33). This is the only spot at which the axle width (1,50 m) can be measured. The right/southwestern rut passes at one point only 0,20 m from the vertical cliff face. This is unusually close and indicates the concern of the road builders to keep the road as close to the cliff and as far from the drop above Vrysoules springs as possible. Adjacent to the smoothed road bed, 8 m to the northeast and just above this abrupt drop-off, there is a built retaining wall likely meant to widen and support the road and to keep the small amount of soil present from washing down to the springs at the valley floor below (fig. 4); like the ruts of these three roads and the rock-cut channels presented here, this wall was previously unknown and no description of it can be found in existing literature. The wall is over 7 m long and 3 m high, and built of large, only roughly shaped hard limestone boulders with no method of binding between them (fig. 34). This ›cyclopean‹ style retaining wall gave support



Fig. 33 Looking east over the northern rut of V5 toward the ancient city of Kleonai; the acropolis is the conical hill just beyond the line of shadow and in the sun

Fig. 34 The retaining wall at V5. The vertical, shaved back area adjacent to the ruts is visible at the right above the wall; the ruts are in the vegetation between the shaved cliff and the wall below





Fig. 35 Vrysoules channel section C5

for this only horizontal ledge above the springs and around the promontory of the southern cliffs, without which there would be no access from the streambed to a descent to the valley floor.

There is also a rock-cut channel along the northern side of the streambed. This channel is north of Road V, cut into the exposed bedrock of the northern slope of the ravine (C1–C5; fig. 4). The channel follows roughly the same route as Road V, since its course is also dictated by the natural contours of the ravine, but it follows the curving sinews of the rocky scarp into which it was cut rather than seeking a direct path in the bed of the stream, and its vertical walls curve to follow the scarp (channel section C4 is only 4 m to the NW of ruts V4). It can be traced in sections over a distance of approximately 85 m (measured along the curve). The channel is square in section, with vertical sides and smooth right angles. It steadily increases in width and apparently in depth from east to west (the eastern sections of the channel are filled with soil), and where exposed its floor is very smooth (fig. 35; C5, 1,17 m in width and 0,82 m in depth). Beyond C5, all trace of the channel disappears in the heavy overburden. However, a depression runs from this last trace of the channel along the northern scarp of the ravine, and then continues at the same trajectory straight to the edge of the plateau above the steep drop to the Vrysoules spring just north of the retaining wall and V5; this depression may or may not represent the line of the channel.

Like Leake's channel, this also appears to be a water conduit, but what would have happened to the water it carried when the channel reached the edge of the ravine is unclear. Indeed, it often appears more like simple quarrying than a purposeful channel, and there are what appear to be simple quarry cuts near channel sections C3 and C4, but it is curiously long, thin and continuous, different from the quarry cuts and traces in most of the other quarries. This may be accounted for simply by the narrowness of the streambed, but the probability that this cutting also has something to do with a water management system cannot be dismissed. The appearance of the channel is one of careful construction; the smoothing of the floor apparent in section C5 is not at all typical of the quarries.

#### *Discussion*

The purpose of the channel and other aspects of the road in the streambed could probably only be clarified by clearing the entire ravine of the thick overburden of soil and brush. For example, the evidence that there were more than one set of wheel ruts within the narrow streambed is curious. The ruts

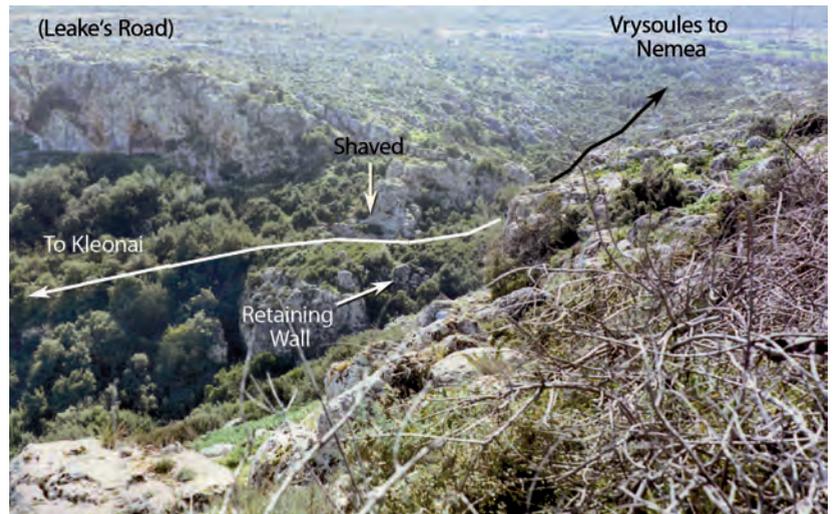


Fig. 36 The route of the Vrysoules road. Section V5 is immediately above the retaining wall and below the shaved-back area. The old monopati to the east is completely overgrown, but its route is remembered by local residents as it is marked here

themselves are narrow and precise, and they do not display the kind of unintentional doubling and blurring resulting from slippage of the wheels under heavy quarry loads. It is unclear why more than one track was necessary in such a confined space, unless one assumes some sort of turn-out to allow carts traveling in opposite directions to pass each other. It also seems unlikely that such a steep and precarious road would have been primarily used to transport blocks from the quarries when so many other roads (Amalia's, Leake's) were available. Indeed, at first glance, the rocky streambed and the narrow ledge above a steep drop appear to be a surprising, even impossible, location for an ancient road. However, the descent to the east beyond section V5 is actually rather gentle (if one imagines away its current overgrown, impenetrable state), and the streambed and ravine provide the most direct access from the valley floor to the plateau of Mantzoraïka (fig. 5).

The road is not now traceable in terms of physical evidence further to the east and south. Kondostavlo residents report that additional wheel ruts are preserved a little southeast of section V5, along the course of an old pathway which followed the course of this ancient road. This monopati has now become very overgrown, partly due to the collapse of part of the cliff above. This rock-fall has blocked the old path, and as the road fell out of use, it became impassable, and any additional wheel ruts or other physical evidence for the road are now obscured. Some sections of the cliff appear to be shaved back further to the southeast, but full documentation due to the present state of the monopati is now impossible. The route of the road, however, seems clear. It must have followed the now defunct monopati's route, described to me as descending from section V5 along a gentle spur of the ridge extending towards Kleonai. To one standing at road section V5, the course of this old path below is today impossible to discern; to one standing on the top of the cliffs opposite, i.e. on Amalia's road, however, it is easily recognizable as a distinct line of descending stony ridge and vegetation, and it is visually convincing as the route of a now heavily overgrown road (fig. 36).

Moreover, in the accounts of the early travelers there is evidence that this old path providing an ascent of the ridge via Vrysoules was still in use in the 19<sup>th</sup> century. At that time, the travelers coming from Corinth and turning west at Kleonai appear to have approached the ridge from south of Kurtessa along the same general route used to approach the ascent via Leake's road;

thus these two ancient roads were both still in use as alternatives in the Early Modern period. Indeed, it is just possible that this is actually the road described by Leake. It also passes the caves in the cliff below Amalia's road, and from here they are even more visible and closer, just to the right of the traveler to Nemea. There is also an excavated channel running near the road (channel C). However, this ›channel‹ appears to be too short and too large to fit Leake's description, and although his account is not explicit, he seems to imply that the channel is on the left and not the right of the road to one traveling west. It is much larger than Leake's channel, and it appears to increase steadily in both width and depth over its short course.

It is more likely that Dodwell took the Vrysoules route to Nemea, and that he saw this channel; his account is also general, but he likewise indicates that the road he takes to travel west to Nemea branches off south of Kurtessa, following the plain and then mounting the barren slopes of Drymoni. He mentions seeing what must be part of an ancient road or water channel:

»As we proceeded [from Kurtessa], we passed by several imperfect traces of antiquity. Some of the country was rich and cultivated, but it was, in general, sterile and neglected. In several places the horizontal surface of the rocks over which we passed is cut into channels, probably for the draining of the rain water. A few paces to the right of the road are three natural caverns in the rock.«<sup>63</sup>

After mentioning the ›channels‹, Dodwell mentions caves visible to the right of the road. He must also be referring to the same three large caves mentioned by Leake in the face of the cliff on the northern side of Vrysoules ravine directly below the line of Road A (fig. 7). From the top of the ridge carrying Leake's channel road, these caves are prominent off to the right. There are no other distinct caves along the ridge which could fit this description, and none at all once one reaches the top of the ridge and continues across the Mantzoraïka plateau<sup>64</sup>. It is thus possible that Dodwell is in fact traveling on Leake's road and describing Leake's channel, but his observation that the caves are only a few paces away from and to the right of the road does not fit well with Leake's road. This suggests that Dodwell is describing the road and channel in the Vrysoules gorge.

It is the account of Mure, whose approach to the ridge from Kurtessa we traced earlier, which most clearly demonstrates that the Vrysoules route to ascend the ridge was in use in the Early Modern period. He says:

»We now entered one of the wildest and most dismal solitudes which it has been my lot to traverse in any country. The road lay up a steep glen, between mountain ridges of uncouth form and gloomy colour, with bare, rocky summits; their sides perforated here and there with caverns, the fabled haunts of the Nemean lion. The ravine itself is thickly clothed with brushwood, which overtops in many places the head of the traveller. In toiling up this dreary pass, Nicola [his Albanian guide] and myself had gained considerably on the agoghiate, who, with the baggage-horse, was coming up slowly in the rear, when we heard him calling to us in the distance ... It was evident that something was wrong but thinking the best plan would be to let my companion manage the affair his own way, I said nothing until we had nearly gained the summit of the pass, when I ventured to ask what was the matter. He answered, that there were some scoundrels at the bottom of the glen calling out to us to stop, that ›they wanted to rob us and, they took us for women. I expressed incredulity, but he assured me there could be no doubt on the subject, as he understood the language of the kleptic profession too well to be mistaken ... Another

**63** Dodwell 1819, 207. Later (208)

Dodwell gives us similar information:

»Pausanias says there were two roads from Kleonai to Argos, one for pedestrians, the other, which passes Tretos. We pursued that which leads to Nemea, and found it extremely bad; the rocks, for a considerable way, are curiously hewn into a variety of channels.« It might be possible to argue that Dodwell is simply describing wheel ruts by the term channel, but elsewhere (in his description of the Tretos pass, e.g.) he clearly recognizes and describes ancient wheel ruts as such.

**64** The only other caves which could conceivably be meant here are a series in the cliff south of Vrysoules and thus directly below the course of the channel road. They are not visible from this road itself.

Fig. 37 Looking west toward the Drymoni ridge from the monopati leading to the acropolis of Kleonai (route Va), from a point east of the paved Kondostavlo – Aghios Vasilios road. The limestone cliffs on either side of the Vrysoules streambed are clearly visible behind the telephone pole in the middle of the frame; the Vrysoules road ascended just right of the pole



Fig. 38 Looking east, down the old monopati from near the house of Kapetanos. The path can be seen heading across the hills in the direction of the acropolis of Kleonai (which is hidden from view)



peculiarity of this affair is, that the whole took place within a little more than a mile of the station of gendarmes [Kurtessa], who had assured me not half an hour before that the country was perfectly secure.<sup>65</sup>

Mure's description of toiling up a steep path, through a ravine above a glen and between mountain ridges perforated with caves fits the Vrysoules road exactly (fig. 37).

#### Routes V to Va or Vb:

Mure at least certainly approaches the ascent from south of Kurtessa, along a route that I have argued was either not ancient or was used in antiquity only as a quarry road, and which also corresponds to the eastern leg of the route used by early travelers to reach Leake's road from Kurtessa and the Corinth – Argos road (Lb). Thus his account serves primarily to demonstrate the viability of the portion of the road which ascends precariously along the southern side of the Vrysoules gorge, the exact portion of the ancient road which seems today most incredible, and to show that both Leake's road and the Vrysoules road were still being used as alternative routes to ascend Drymoni in the Early Modern period. His overall route, however, is unlikely to represent the original course of the ancient road represented by ruts V1–V5. In fact, the course of this ancient road can be reconstructed with some confidence, since although the old monopati which followed its route up the gorge has fallen out of use in the area near the preserved ruts, it is still extant further to the east, beyond the heavily overgrown section, and near the point at which the path reached the valley floor. Here it is preserved in the form of a widened dirt road, which passes just south of the house of Kapetanos (figs. 12. 38), and

65 Mure 1842, 143–147.



Fig. 39 Roadside blocks to the west of ancient Kleonai

then crosses the paved Kondostavlo – Aghios Vasilios road. From here, the old path/dirt road continues and heads straight to the western side of the acropolis of Kleonai (Route V to Va).

This dirt road follows the most direct route from the acropolis of Kleonai to the top of the ridge and the Mantzoraika plateau, and I believe that it represents part of the direct ancient road from the acropolis of Kleonai to Nemea. Although there is no direct evidence for an ancient road along the section of the monopati running from the house of Kapetanos to the western side of the acropolis in the form of wheel ruts or retaining walls, there are some indications that it was used in antiquity. As indicated above, the path itself is an old one. It was not opened to provide access to fields, and indeed it is hard to explain as anything other than access from the plateau via the ravine to the acropolis. Near the house of Kapetanos there are clear traces of quarrying, perhaps only one course of blocks deep, on the gentle slopes on either side of the path, and it is a feature of Kleonaian quarrying that any usable stone near a road was quarried simply because of the ease of access. Moreover, right next to the path but much further east, at a point only 200–250 m southwest of the reconstructed line of the city wall, blocks of a structure were reportedly found (at the juncture of routes Va and Vb on fig. 12). According to resident Elias Skazas, a wall of well-cut stones was uncovered running just east of and parallel to the path at this point when a trench was dug for the installation of a water pipe along the path. The trench is still exposed, and the field adjacent to it to the east is indeed still full of tiles, debris, and stones; a number of these were still lined up at the edge of the field, but the specific details of Skazas' report cannot be confirmed (fig. 39). Thus no firm date can be proposed for the blocks in their present state, but they appear to have belonged to a good size extramural roadside structure<sup>66</sup>. This is in the area known as Γούβα Κατρά, the location given by Charitos for the place where a section of the aqueduct leading from the Platania spring was supposedly found only 20 m from the western wall of the polis. Near this point, a branch of the path leads off to the east and passes through the conjectured line of the city wall at the location where earlier observers mention seeing evidence of a city gate (Route Vb; fig. 12)<sup>67</sup>. Pikoulas assumed that this branch represented part of the main Classical road between the city of Kleonai and Nemea; Vb enters the southeastern portion of the city in an area protected and surrounded by the three hills over which the city extended, and just above and to the west of a large, open area likely to represent the agora. Thus the route V to Vb represents the most direct route between the heart of the polis and Nemea. Indeed, Pikoulas gives the toponyms of the route of the Kleonai –

<sup>66</sup> Elias Skazas, personal communication, December 5, 1999. Elias added that pieces of small-sized marble columns were also removed from the trench. He is adamant that the blocks were in situ when exposed, and formed a wall running parallel to the road, and appearing to have at least one perpendicular wall.

<sup>67</sup> Charitos 1968, 25. Vischer 1857, 286 mentions a city gate generally on the south, and Gregory 1994, 352 claims that gates in the plural can be discerned (without giving an exact location). Sakellariou and Pharaklas (1971) also show an opening in the city wall at this point in their fig. 72.

Nemea road as he reconstructs it from east to west as Βολιμωτή – Τούβλα [the areas of the agora and the acropolis respectively], Γούβα Κατρᾶ – Δυὸ Γκορτσιές – Πουρνάρι – Κολώνα – house of Kapetanos – Ράχη Μαντζώραου [Mantzoraïka]<sup>68</sup>. Thus he also identifies the old path from the house of Kapetanos to the acropolis as an ancient Kleonai – Nemea road; it is simply now clear that this old path continued straight up the Vrysoules gorge to ascend the ridge via ruts V1–V5. Thus I disagree only with the western end of the route, between the house of Kapetanos and the top of the ridge; to the east, I assume that *both* the branch of the road described by Pikoulas leading to the agora (Vb) and the straight continuation of the monopati to the western side of the acropolis (Va) were branches of an ancient road.

The road from the acropolis on this monopati and then up the Vrysoules glen (Va to V) was clearly an ancient road, but it probably does not represent the main east–west road for long distance travel in antiquity either, since it does not provide access to the Corinth – Argos road. Instead, it is the shortest route between specifically the *acropolis* of Kleonai and Nemea. It is therefore even possible that this route originated in the Bronze Age, when the settlement at Kleonai was centered on the acropolis (and not primarily down the slopes of the hills to the east and south) and provided a direct link between Kleonai and the Mycenaean settlement of Tsoungiza in the Nemea valley. In light of the research of Lavery detailing an extensive road system linking Mycenae with the valleys of Nemea and Kleonai, it is logical that there would also have been a well-maintained Mycenaean road linking Kleonai and Tsoungiza directly<sup>69</sup>. Moreover, it could be argued that the hitherto unknown retaining wall supporting the road directly above the steepest part of the Vrysoules gorge near V5 is a Mycenaean construction. This wall is definitely a built feature, and it is hard to imagine another period in which stones of this size and style would have been used; however, it must be noted that lacking a corbelled arch or other direct evidence, a generally ›cyclopean‹ style is not enough to prove that the wall dates back to the Mycenaean period. Nevertheless, the possibility remains tantalizing<sup>70</sup>. It is also possible that some apparently worked stones in the streambed above may have once formed part of a curbed track like those documented by Lavery north of Mycenae<sup>71</sup>. The retaining wall is 8 m away from the smoothed road surface carrying the wheel ruts abutting the shaved back cliff face. The shaving back of the cliff and the careful preparation of the road surface and the ruts may then represent a later widening of the road in the Archaic or Classical period as an improvement of the road at this dangerous spot. Given the fact that the wall is located at the end of the streambed and that there is evidence of purposely cut water channels in the streambed above, it is also possible that it originally formed part of some sort of larger dam or bridge; extensive clearing would be necessary to clarify the situation and offer a firm date<sup>72</sup>.

#### II.IV. The Main East-West Axis via Kleonai

Route V to P to Pa or Pb and L to P to Pa or Pb (fig. 12):

I have argued that all three newly discovered ancient roads providing access to and from the Mantzoraïka plateau represent both part of an east–west interstate route through Kleonaian territory, and that they all have branches which were used for local travel between the city of Kleonai and features in its landscape. It remains only to consider the course of the ›main road‹ for long-distance travel from west to east via the city of Kleonai itself in the

68 Pikoulas 1995, 47.

69 Lavery 1990 and 1995.

70 The construction is similar to that used for the retaining wall, culverts and bridges on the Mycenaean road following the southern contours of Kondovouni and Koutzoyianni north of Mycenae (Schallin 1996, 130–135 figs. 4–9).

However, this caveat must be kept in mind: »It is in any case not valid to assign dates to ›Cyclopean‹ (or any other) walls *solely* on the basis of such analyses of the *superficial* aspects of their wall faces,« Hope Simpson – Hagel 2006, 26.

71 Lavery 1990, 168: These secondary roads or tracks were apparently constructed of stone curbs in the form of a single course of large rectangular or oblong blocks on either side of the road. The roadbed was then filled in with earth which has subsequently eroded away.

72 For a recent discussion of Mycenaean roads and dams, see Hope Simpson – Hagel 2006.

Classical period, from the top of the Mantzoraïka plateau and Pikoulas' ruts, to the Corinth – Argos road, and it is unlikely that any of the routes so far traced will suffice. As interpreted here, Road A and its branches represent an expedient long distance route which bypasses the city, and a local road providing access to a major source of the city's water. Route V to Va and Vb provides direct access between the acropolis and center of the city with the top of the ridge, and it is likely to represent the main, direct road from specifically the city of Kleonai to Nemea. Route L to La skirts the plain and joins the Corinth – Argos road considerably south of the city; since there are routes which lead south directly from the Nemea valley, this branch is unlikely to represent a route for long-distance travel in the direction of Argos, and I have argued above that the section of the route Lb may only have been created out of quarry access roads in the Early Modern period. However, I think that both the sections of Road V and Road L represented by wheel ruts are likely to represent a continuation of a main road between Kleonai and Nemea in antiquity; the road up the Vrysoules stream was probably earlier, possibly even dating back to the Bronze Age, but used into the historical period, as witnessed by the presence of wheel ruts. Leake's road may have been constructed even centuries later, but once created, they were in simultaneous use. Just as they represent alternatives for the early modern route, they probably served also as two alternatives for the ancient main route to Nemea. Presumably travelers with heavier loads or quarry loads would prefer the gentler course of Leake's road, whereas the Vrysoules route presented a quicker alternative for lighter loads. To the west, at the top of the ridge, the two roads joined with Amalia's road, and all three continued to Nemea as one road on or near Pikoulas' ruts.

To the east, beyond the ruts of routes V and L, the main road in the Classical period probably did not continue on either the monopati from Vrysoules to the acropolis (Va) or on the continuation of Leake's road south past the eastern tip of Drymoni (La), since neither of these routes are particularly convincing for long-distance, east-west travel, and neither route leads directly to the Corinth – Argos road at the city of Kleonai; another branch or branches must be sought.

If the lines of both of the Roads L and V are extended as directly east (and thus towards the Corinth – Argos road) as allowed by following the natural contours of the topography, they would intersect at a point on the modern paved Kondostavlo – Aghios Vasilios road just northwest of the Skitsa hill (fig. 12). Even without direct evidence, one might reasonably surmise that in antiquity, the main branches of Roads V and L continued east to intersect at this point, and thence to continue straight out to the Corinth – Argos road just south of the city, but physical evidence to support this assumption is close at hand.

Just beyond this point another old monopati is preserved running due east, past the Papadas winery (figs. 12, 40). Only 15 to 20 meters to the east of the intersection of this monopati with the paved Kondostavlo – Aghios Vasilios road, one long wheel rut is well preserved (Ruts P) on an isolated patch of exposed hard limestone on the north side of the path (fig. 41). This rut is very smooth, and the patch of stone is itself worn or worked very smooth, and there are traces of secondary ruts, some of which are blurred and doubled as though from frequent, heavy loads. The main rut measures 3,18 m in length, 0,10 m in width and 0,15 m in depth as exposed, but it is clear that there is more of this road preserved below ground. The main rut and all of the secondary ruts exposed here probably belong to the track for the northernmost cart wheel.



40

Fig. 40 Looking northeast from Drymoni toward the acropolis of Kleonai (to right). The site of the ruts by the Papadas winery is marked, as is the old monopati on which they are located



41

Fig. 41 Ruts P from the west, and looking east down the monopati as it heads toward the Kleonai plain

Fig. 42 Looking west from the temple of Herakles at Kleonai (in the foreground). In the background, two cypress trees mark the point at which the old monopati near the Papadas winery (route P) enters the Kleonai plain after having crossed the low hills in middle distance. In the background, the Drymoni ridge is visible



42

The wheel ruts clearly run in the same direction as the monopati (Ruts P). More precisely, the monopati follows the course of an ancient road. These ruts were known to a large number of residents, who uniformly claim that they were visible and preserved over a greater distance along the old path before it was widened for vehicles<sup>73</sup>. The ruts are wide and deep despite being on flat ground, and this suggests that the road saw heavy use, as does the double set of ruts for the wheel on one side. I propose that these ruts belong to the main road leading from Kleonai and the Corinth – Argos road to Nemea. To the west, one could continue on either Leake's road or the Vrysoules road. To the east, the ruts no doubt continued to follow the course of the monopati, which crosses a low hill to drop down into the Kleonai valley proper just south of the ancient city; the eastern end of the path is today marked by two lone cypress trees (fig. 42). From this point, I suggest that the road again had two branches; one which turned north at this point to head along the eastern wall of the city (Pa), and one which continued directly across the plain to the Corinth – Argos road (Pb; fig. 12).

<sup>73</sup> These must be the ruts remembered by Charitos and described to Pikoulas as being near the road to Aghios Vasilios, «στὰ πρόθυρα σχεδὸν τῶν Κλεωνῶν». See Pikoulas 1995, 49.



Fig. 43 Looking northeast from the Drymoni ridge over the Kleonai valley

After entering the Kleonai plain, the path (P) has not been widened, but a branch of it continues as a smaller agricultural road and turns to the north. Not far from the ancient city, the path peters out entirely. Aerial photographs of the area, however, suggest that an ancient road may have followed this branch of the monopati all the way to its end and even beyond to the north (Pa), since the contours of the fields both east and west of the line of the monopati continue to radiate out from it; the proposed course of the road Pa is in part based on this phenomenon (visible in fig. 12) and in part based on the quantity of extra-urban remains along this path (ancient blocks, some foundations, and at least one stele base). The road would have passed directly below the ancient city walls and the agora, and joined the Corinth – Argos road just south of the narrow »pass« between the eastern hill carrying the city wall and hill 228 (fig. 43). To one traveling from Corinth, this course would represent the shortest route between the Corinth – Argos road and the main route west as represented by the Papadas ruts (P). Just north of this conjectured road Pa and the point where it meets the Corinth – Argos road, there is a semi-circular scarp now adorned with cypress trees. Sakellariou and Pharaklas identify this as the site of the ancient theater, and indeed it is not a natural feature (labeled »theater« on fig. 12). It is highly unlikely that the semi-circular scarp represents a theater<sup>74</sup>; it may be a site where stone was quarried, but the remaining visible bedrock in the scarp is not poros. This semi-circular cut and an adjacent linear scarp (labeled »modification«) may represent modification of the landscape here where the main Corinth – Argos road passed below the city wall to allow some sort of control installation or fortification to be built (which has totally disappeared) and to allow the construction of this branching road (Pa)<sup>75</sup>.

The main road probably also continued from the Papadas ruts straight out to meet the Corinth – Argos road (Pb; fig. 12). Although there is no path preserved running directly east of the cypress trees where the monopati following these ruts reaches the plain, if one continues along roughly same trajectory, one intersects with the Corinth – Argos road at Aghios Nikolaos/Kurtessa. Moreover, the point where route Pa branches off of Road P is due west of (and only approximately 170 meters from) an extramural temple of Herakles belonging to the city of Kleonai; this shrine is located immediately between the eastern end of path P and the church of Aghios Nikolaos/Khan

74 The location is outside the city wall, with no exposure and no view. It is much more likely that the theater, doubling for a place of assembly, should be recognized in a semi-circular slope further north-west, on the southern side of the saddle between the acropolis hill and the eastern hill of the city, within the city walls and above the agora, and with a spectacular view across the southern end of the valley toward Aghios Vasilios.

75 Sakellariou and Pharaklas also assume that a road ran in the general location of Pa, but they reconstruct the route differently. They mention observing traces of modification of the landscape in connection with this road, but I cannot tell exactly where they mean: »Addition has been made in fig. 72 of a section of road eastwards (apparently running along the low ridge line and leading to the front of the theater, on the Corinth – Argos road, n. 479), and the site has been modified over a small section of the road leading to the temple of Herakles, in such a manner as to avoid an unjustifiable deviation to the west« (1971, 131). The section of the road they describe as »leading to the front of the theater« I take to refer to the portion of the road adjacent to the scarp I have labeled »modification« in fig. 12. The section that they call »modified« I suspect to be much further south: they continue the road more directly toward the temple of Herakles, and appear to be referring to some modification to allow this slightly different route.

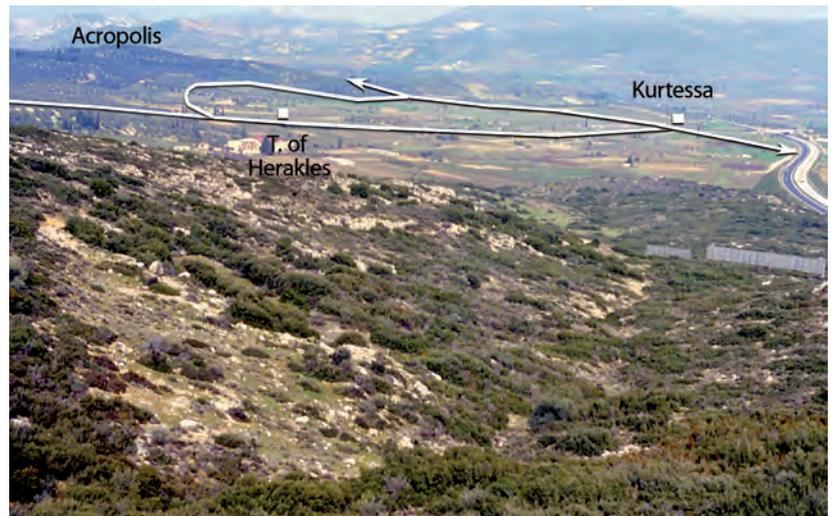


Fig. 44 The junctures of Corinth – Argos road, and routes Pa and Pb respectively

**76** Diodorus mentions only Eurytos, and he erroneously makes him the son of Augeias.

**77** On interpreting this myth and the phrase ἐφ' ὁδῶ see Marchand 2002, 39 n. 26, and 102–106.

**78** A number of the travelers mention the temple, but most appear to know it only from Diodorus' account (Dodwell 1819, 207 n. 1, Pouqueville 1826, 186, e.g.) Leake, however, had the temple described to him, although he does not appear to have visited it (1830, 326 f. n. 2): »I have since been informed that at a khan [of Kurtessa], five minutes beyond the ruins of Cleonae, on the road to Tretus, there are some remains of a small Doric temple in antis, with fragments of a statue – it is probably the temple of Herakles mentioned by Diodorus.« Note that the location of the Herakles temple is close enough to the church of Aghios Nikolaos to be described as both »at Kurtessa« and thus also essentially on the Corinth – Argos road (= the road to Tretus).

**79** Frickenhaus 1913, 114 f. The temple and the facing structure have been recently cleaned and studied by T. Mattern of Marburg University as part of his habilitation project. His results are as yet largely unpublished, but he tentatively dates both structures to the years around 200 B.C.; I thank Dr. Mattern for sharing this information; see also Mattern 2002.

of Kurtessa, and thus on a direct route between these two points; it is reasonable to assume that this important shrine would have been located on a major road leading to and from the city, and near the branching of the main east-west axis from the major north-south route as represented by the Corinth – Argos road (fig. 44).

Some confirmation of this assumption can be found in the accounts of Herakles' slaying of the twin Elian champions Eurytos and Kteatos at Kleonai (referred to briefly above to indicate the significance of a route via Kleonai for east-west travel), since the brothers were en route from Elis to Isthmia at the time of the attack. Diodorus (4, 33, 3–4) is the only ancient author to mention the sanctuary of Herakles directly; his account is muddled, but he indicates that the Elian champions were killed at the spot where the Kleonaian *hieron* of Herakles stood in his day<sup>76</sup>. Pausanias (2, 15, 1) provides the detail that there was a monument to the slain twins at the murder site. It is Pindar's account, however, which is most specific for our purposes: in his Olympic Ode 10, he states that the brothers were actually attacked and killed on the road and below Kleonai while in procession to Isthmia (Ol. 10, 30–34)<sup>77</sup>:

λόχμασι δὲ δοκεύσαις ὑπὸ Κλεωνᾶν δάμασε καὶ κείνους Ἑρακλέης ἐφ' ὁδῶ,  
ὅτι πρόσθε ποτὲ Τιρύνθιον ἔπερσαν αὐτῷ στρατόν μυχούς ἦμενον Ἄλιδος  
Μολίονες ὑπερφίαλοι.

»Hiding in a thicket *below Kleonai*, Herakles overcame them in turn *on the road*, because before that the overbearing Moliones had destroyed his army of Tiryinthians when it was encamped in the valleys of Elis.«

Taken together, these sources suggest that at the site of worship of Herakles at Kleonai there were both a monument to Eurytos and Kteatos and a *hieron* to Herakles, that these two shrines were thought to be located at the spot where Herakles murdered the twins, and that this was an extramural spot below the city and right on a major east-west road via Kleonai.

The location of the Herakles temple at Kleonai was never lost; already at the time of the early travelers to Greece its ruins were recognized and correctly identified with a small Doric limestone naiskos south of the city and just west of the Khan of Kurtessa<sup>78</sup>. The structure underwent partial excavation in 1911 by A. Frickenhaus, and it has recently been cleaned and re-examined by T. Mattern of Marburg University<sup>79</sup>. The existing temple itself he now dates to ca. 200 B.C., but it is clear that the Kleonaians worshipped Herakles

as a hero much earlier. Herakles appears on the earliest coins of Kleonai in the 5<sup>th</sup> century B.C., and his sanctuary was presumably located here prior to its elaboration with a temple to the hero as a god; the location fits with Pindar's 5<sup>th</sup> century description of the spot where the brothers were killed<sup>80</sup>. Moreover, a portion of the marble cult statue in the form of a muscular, over-life sized torso likely representing a seated Herakles is still preserved at the site, and the identification of these remains with the site of the sanctuary of Herakles and thus with the site of the murder of the Elian twins should be considered definite<sup>81</sup>. Consequently, that this site is a fixed spot on a main road for east-west travel via Kleonai can also be considered secure<sup>82</sup>.

Therefore, the sanctuary of Herakles was not just at the fork in the road between routes P to Pa and P to Pb, but it also marked the significant crossroads of long-distance routes formed by the junction of the Corinth – Argos road and the major artery leading from it west via Nemea; a location near a crossroads it not an unlikely one for Herakles<sup>83</sup>, and indeed traveling on Kleonai's western route is an important theme in Kleonaian myths concerning Herakles<sup>84</sup>. However, it appears that it is Aghios Nikolaos which marks the exact location of the intersection of the major interstate routes through Kleonaian territory (fig. 44). This is a logical location for the juncture of these arteries because of the water provided by its spring; it is also a prime location

**80** By the 460s, if not earlier, Kleonai was minting silver coins; Gardner 1887, 154, Cleonae nos. 1–7 Pl. 29, 1–3; Head 1911, 440. Six of the known 5<sup>th</sup> century issues depict the head of young Herakles in the lion skin on the obverse, one a bearded Herakles in the lion skin, and one the head of the Nemean lion. All display an incuse K on the reverse; it is difficult to determine the volume of coins produced during this period, but eight different issues are recorded, suggesting a strong association between the city and the hero, and suggesting that Herakles was worshipped at the city by the 5<sup>th</sup> century. Moreover, Pindar tells the story of Herakles' murder of the Molionidai in such a way as to suggest that the mythic action of the poem was envisioned as taking place at the site of the later Herakles temple already in 476 B.C. (Ol. 10). Ch. Salowey (1995, 71–74) points out a possible exact parallel for a myth associated with the location of a roadside sanctuary of Herakles, and throughout her work she stresses that a location outside the city walls is wholly consistent with the placement of Herakleia at other sites: »there may be some slight evidence that there was a sanctuary of Herakles or trophy on the road from Sparta marking the site of Herakles' conquest of the Hippokoontidai.« The form of the Kleonaian *hieron* prior to the construction of the temple may have been quite simple, and the present temple at Kleonai was not built until around 200 B.C.; the prominence of Herakles as

a hero at Kleonai suggests that it would not be an unlikely place for the construction of one of the first temples to Herakles as a god.

**81** On the cult statue, see primarily Palagia 1988, 776; Danner, 1993, 19; Damaskos 1999, 19–22. 232 pl. 1, n.2; Marchand 2002, 112–116. Salowey (1995, 48) has recently cast doubt on the identification of the temple, but elsewhere I have argued that her arguments are overly cautious; lacking an inscription or inscribed dedication, it is impossible to provide absolute proof of the deity worshipped at the site. There are a number of different candidates for the location of the memorial of Eurytos and Kteatos among the remains at the Herakles temple; Kleonaian myths of Herakles and their relationship to the ruins at this site will be addressed in greater detail in a future paper by the present author, and the publication of the cleaning of the temple and its environs by Mattern will further clarify the situation.

**82** There is no longer any direct evidence that the ancient road from the Papadas ruts continued to the east in this direction past the temple of Herakles and out to the main road (Pb). However, there is no longer any monopati preserved at all connecting the main Corinth – Argos road and this portion of the route to Nemea, since the intensive agricultural activity in the plain just east and south of the ancient city has resulted in different access needs. The

lack of a preserved path in this area is not sufficient evidence to argue against such a likely course for the main Nemea road.

**83** e.g., as Archidamos III marched past Eutresis in Arkadia, he interpreted a flash of lightening over the sanctuary of *Herakles at the crossroads* as a good omen for ensuing battle (Xen. Hell. 7, 1, 31); see Salowey 1995, 74.

**84** In addition to the myth of Herakles' slaying of the twins Eurytos and Kteatos en route as theoroi from Elis to the Isthmian games, the other main myth of Herakles at Kleonai involves a version of the myth of the Nemean lion hunt, traces of which can first be found in Kallimachos' *Aitia*; this myth also suggests that the site of Herakles' worship as both a hero and a god was on a main road from Kleonai to Nemea. The central action of the myth focuses on Herakles' traveling back and forth from Kleonai to Nemea, presumably on the road represented by route P to V; see Marchand 2002, 103–106. One Kondostavlo resident even told me that near ruts P, there used to be visible a stone which was pointed out to him when he was a child as preserving the palm print of Herakles from when he leaned against it to rest on his way to hunt the Nemean lion; this colorful story underscores that the local residents have long recognized route P as representing an ancient, direct route from the temple of Herakles at Kleonai to Nemea.

for a roadside shrine, and a logical place for the later settlement of Kurtessa to develop. Indeed, the little church appears to be at the very hub of these axial routes through the northeastern Peloponnesos<sup>85</sup>. Thus the landmarks of the first leg of the main east-west axis branching off of the Corinth – Argos road at Kleonai can be reiterated as follows: Aghios Nikolaos/Kurtessa – Temple of Herakles – Ruts P – Ruts V or Ruts L – Pikoulas' ruts – Sanctuary of Zeus at Nemea.

### III. Conclusions

In previous discussion of Kleonai and the Corinth – Argos road, I have stressed the significance of the city's commanding location and its close alliance with Argos throughout the Classical period both for access to this important north-south route for Argos' political rivals and for influencing the formation of alliances by surrounding states. With new evidence for the first leg of an important east-west route for interstate travel branching off of the Corinth – Argos road at Kleonai now presented, these points can be stressed further: Kleonai was right at the crossroads of major, direct, natural routes funneling traffic to and from the Isthmus both to the south and west, and these were the preferred routes for long-distance travel when Kleonai was neutral. However, these routes were off limits for military expeditions led by enemy states, most crucially, Sparta; the need for Sparta to maintain expedient access to the Isthmus for its land army meant that it was imperative to cultivate alliance with the states surrounding the Kleonai valley, including Phlious, Sikyon, and Corinth.

Equally important, however, is the evidence presented here for the multiple local branches of this east-west artery. In their article on Kleonai for the »Ancient Greek Cities« series, Sakellariou and Pharaklas stated that most of the old paths around the site of the city of Kleonai were probably ancient roads, but they provided no evidence or argumentation<sup>86</sup>. Here physical evidence in the form of wheel ruts has been presented for four of these old paths (A, V, L, and P), and additional argumentation based on roadside features and topography has been presented for numerous others; ultimately, what emerges is an image of an entire network of interconnecting local roads surrounding Kleonai, all feeding into alternative routes on the main east-west axis, but each with specific local destinations and diverse functions (fig. 12).

On the assumption of the necessity of a powerful, centralized state to organize road clearing and maintenance, Pikoulas concluded from his extensive study of Greek roads in the northeastern Peloponnesos that the entire system was primarily constructed by Sparta for military purposes. The picture of Greek roads developed here indicates that this interpretation is too narrow, and unlikely to explain the roads in Kleonaian territory. The region was allied early with Argos, and inaccessible to Sparta's army on many occasions; the Kleonai-Argos alliance was in place by the early 5<sup>th</sup> century, and likely already in the early 6<sup>th</sup> century, when the Nemean Games were established. It is thus unlikely that Sparta played a significant role in developing the roads near Kleonai<sup>87</sup>. The idea that Greek roads were also built exclusively, or even primarily, for military purposes also proves too narrow, considering the local function of many of these roads, which were apparently designed for such diverse purposes as aqueduct construction and maintenance, quarry and construction transport, access to springs and sanctuaries, and access between Kleonai, the custodians of the Games, and the sanctuary of Zeus at Nemea.

**85** It is not then surprising that Kurtessa also played an important role as a gathering place during the Greek war of Independence, in which much of the action was played out along ancient routes radiating south of Kleonai which were still in use at that time; I thank Y. Pikoulas for bringing the history of one of Kolokotronis' officers Photakos to my attention; particularly instructive is Gritsopoulos 1973, 351–368.

**86** Sakellariou – Pharaklas 1971, fig. 72 and n. 478.

**87** For the circumstances of the alliance of Kleonai and Argos, see McGregor 1941; Kelly 1976, 125; Gardiner 1910; Richardson 1992, 224; Hammond 1982, 350; Marchand 2002, ch. 2. Note that Pikoulas (1995, 22 n. 36) identifies the ruts in the Tretos pass as having an »anomalous« axle span of 1,50 m; above I've questioned his assertions that all axial roads in the region display an axle span of 1,40 m and that they were all constructed by Sparta, but it worth noting that the Tretos road is likely to have been maintained by Argos, and its axle span corresponds to those found in Kleonaian territory.

In fact, there were likely as many reasons for local roads in antiquity as there are today, and like Sakellariou and Pharaklas, I doubt that there were many fewer options for the traveler in antiquity than at present, or at least than there were before the use of heavy machinery and dynamite began to allow road construction to ignore the dictates of the landscape. Moreover, the manpower and organization necessary for Kleonai's large quarry operations on the Drymoni ridge would have been more than sufficient for the construction of roads, which often required no more than clearing and smoothing the roadbed. There is no reason to think that a small to medium sized polis could not and did not maintain and create roads in its own territory for its own purposes.

One final point can and should be underscored here. There is no literary evidence for any of these new roads; none are mentioned directly in any ancient source. The literary sources that refer specifically to ancient roads tend to date to the Roman period, and this is particularly true in the region of Kleonai, where the observations of Strabo and Pausanias dominate the discussions. However, in the Classical period, ancient roads were dictated primarily by two conflicting factors: expediency and politics. The former sought the easiest and most direct route, but the latter often necessitated less obvious choices. By the Roman period, the distinctions of polis territories were no longer an important factor, and long-distance travel could concentrate on a smaller number of main roads. These roads are the ones primarily used and discussed by the sources, and they are the roads shown on the Peutinger Table<sup>88</sup>. The early travelers, our second main source, expressly state or imply that they are attempting to follow the itineraries of Strabo and Pausanias, and indeed the main roads of the Turkokratia which they follow seem to correspond closely the main roads of the Roman period<sup>89</sup>. This has led to too great a focus on attempting to identify only one main road to each destination or through each region, and these main roads tend to be only those interstate routes of the greatest longevity which remained important into the Roman era, like the Corinth – Argos road; local roads and alternative routes cannot be uncovered in this way. Ultimately, the reconstruction of the extramural road system of a region in the Classical period requires a combination of autopsy and the construction of a circumstantial case; we should not be surprised when autopsy reveals a greater number of ancient roads than suspected only by a study of maps and the literary sources, and the significance of roads detected only in this manner should not be downplayed.

#### IV. Appendix

The purpose of this appendix is to provide a basic description of the constituent elements of each numbered section of roads **A**, **L**, **V**, channel **C**, and ruts **P**, and to provide the dimensions of each without further encumbering the text. There are two reasons why such an appendix is necessary: first, it represents a portion of the documentation of the evidence upon which the arguments in the paper rest, and second, I hope that it will encourage readers to attempt to follow the roads themselves on the ground. The entries are organized and described from west to east, so that each road can be followed starting from Pikoulas' ruts and heading east. For the sake of brevity, details such as the elevation and the orientation of wheel rut segments which can be gleaned from the accompanying plans are not given here.

**88** References to roads can of course be detected in other literary sources. For instance, much use has been made of tracking the course of military campaigns to attempt to ascertain the route followed by the army, as discussed above in relation to the Kleonai – Nemea road. However, such references are usually too vague to stand alone as a basis for identification on the ground.

**89** Roads originally constructed in the Turkokratia were not planned for wheeled traffic, as noted above. However, there would be no reason for major natural routes to have dropped out of use, and it is clear that they did not: it is in fact surprising that no one has commented on the close correlation between the locations of the Turkish Khans or Inns and the post stations marked on the Peutinger Table. In just the Kleonai region, the correspondence is striking: Kleonai (on the Peutinger Table) = the Khan of Kurtessa; Nemea = the Khan of Dervenaki (or the Khan in Aghios Giorgios, depending on one's interpretation of the Table); Mycenae = the Khan of Kharvati.

**Road A****Section A1**

A 13 m segment of the left/NW rut and parallel segments of the right/SW rut. Rut width: 0,10–0,16 m. Depth: 0,05–0,10 m. Axle span: 1,50 m

**Section A2**

A 0,45 m segment of the right/E rut. Rut width: 0,10 m. Depth: 0,07 m.

**Section A3**

Two segments of the left/W rut, preserved for 1,60 m and 2,40 m over a total distance of 5,66 m.

**Section A4**

A 1,00 m segment of the left/W rut. Rut width: 0,08 m. Depth: 0,10 m.

**Section A5**

Two segments of the right/E rut, preserved for 0,40 m and 0,60 m over a total distance of 4,20 m. Both ruts are faint and shallow.

**Section A6**

Ruts for both wheels preserved for 1,10 m. Rut width: 0,07 m. Depth: 0,02–0,03 m. Axle span: 1,50 m.

**Section A7**

The right/E rut preserved for 1,90 m and a parallel segment of the left/W rut preserved for 1,60 m. Rut width: 0,08 m. Depth: 0,08–0,09 m. Axle span: 1,50 m.

**Section A8**

Two segments of the left/W rut preserved for 0,70 m and 0,75 m over a total distance of 5,66 m. At a distance of 3,00 m from the end of the first rut, a segment of the right/E rut is preserved for 0,76 m parallel to the trajectory of the left rut. Rut width: 0,09–0,20 m. Depth: 0,08–0,15 m.

**Section A9**

Two segments of the right/E rut preserved for 1,00 m and 1,20 m over a total distance of A 3,50 m, and one segment of the left/W rut preserved for 0,97 m parallel to the first rut but beginning 0,47 m further north. Rut width: 0,11 m. Depth: 0,09–0,20 m. Axle span: 1,50 m.

**Road L****Section L1**

Numerous short segments of the right/SE rut for 4,70 m, followed after 6,80 m by a 3,50 m section of both ruts for a total distance of 15 m. The ruts are too wide and rippled in section to allow for accurate measurement.

**Section L2**

Ruts for both wheels preserved for 1,00 m. The ruts are too wide and blurred for precise measurements. Traces of additional ruts between sections L1 and L2 can be found on isolated patches of the rapidly decomposing bedrock.

**Section L3**

Numerous short segments of ruts for both wheels preserved over a total distance of 2,00 m; precise measurements not possible.

**Section L4**

The left/N rut preserved for 0,20 m. Rut width: 0,11 m. Depth: 0,08 m.

**Section L5**

The right/S rut preserved in numerous segments over a total distance of 12,00 m; the left/N rut is preserved at the eastern end, where the road descends over a rocky outcropping. Rut width: 0,21 m; rectangular in section.

**Section L6**

The left/N rut preserved for 0,90 m. Rut width: 0,30 m (top) to 0,22 m (bottom). Depth: 0,15 m

**Section L7**

Ruts for both wheels preserved for 10,00 m. The right/S rut is rectangular in section, the left/N rut is U-shaped. Rut width: 0,40 m (at western end, where the road descends most steeply), Depth: 0,20 m.

**Section L8**

The right/SW rut is preserved in large segments over 16,00 m; the left/NE rut is preserved for 14,00 m of this distance. Near the southern end there are traces of an overlapping track. The right rut is rectangular in section, the left U-shaped. Rut width: 0,20–0,30 m. Depth: 0,17–0,26 m.

**Section L9**

A 17,00 m road section consisting of a damaged road surface and the first section of the parallel rock-cut channel. The channel is rectangular in section, with vertical walls and a smoothed floor: Width: 0,50 m. Depth: 0,25 m. It runs in a straight course, making a slight jog to the east at 4,50 m, and then continuing on the previous trajectory.

**Section L10**

A 14,50 m section of the rock-cut channel. The channel is first discernible in the form of its vertical right/SW wall for 3,5 m. After 6,00 m, it re-emerges slightly to the SW and runs for another 5,00 m, curving gently to the south: Width: 0,44 m. Depth: 0,30 m. Rectangular in section, vertical walls and smooth floor.

**Section L11**

The right/SW rut preserved for 21 m and a 1,90 m parallel segment of the left/NE rut. Rut width: 0,20–0,24 m, Depth: 0,15–0,20 m; Axle span: 1,50 m. A short section of a third rut belonging to an overlapping track is visible SW of the right rut. This road section partially overlaps with and is parallel to channel section L10; the right rut is 0,80 m from the channel.

**Section L12**

A 1,40 m section of the rock-cut channel. Width: 0,45 m. Depth: 0,39 m; 0,60 m above the level of the roadbed at L13 and perpendicular to it.

**Section L13**

A 5,00 m section of the rock-cut channel, and a 0,20 m segment of the right/SW rut of the road at a distance of 1,10 m from the channel and parallel to it. Channel width: 0,55 m as exposed. Depth: 0,20 m. Rut width: 0,40–0,50 m.

**Section L14**

A 21,80 m section of the rock-cut channel, and a 21,80 m segment of what appears to be the left/NE rut parallel to it at a distance of 2,00–2,70 m. After a gap of 1,00 m, another segment of the left rut is preserved for 0,10 m for a road section totaling 22,90 m. Channel width: 0,55 m as exposed. Depth: up to 0,30 m. Rut width: 0,25 m. Depth: 0,10–0,15 m; wide U-shaped section. Additional traces of wheel marks on the bedrock approximately 1,00 m E of the channel may correspond to either the right rut or to part of a secondary track.

**Section L15**

A 19,00 m section of the rock-cut channel and segments of the ruts for both wheels. The V-shaped right/SW rut is preserved for 8,30 m parallel to the channel and at a distance of 2,10 m., the left/NE rut is preserved in segments, the longest of which is 4,00 m.

Channel width: 0,55 m, max. depth: 0,26 m as exposed. Rut width: 0,15–0,30 m. Depth: 0,15–0,20 m. Axle span: 1,50 m.

**Section L16**

Multiple ruts all for the same wheel are preserved for 11,50 m, and 3,00 m from the end of these ruts a 1,50 m section of the rock-cut channel is visible through thick brush for a road section totaling 16,00 m.

Channel width: at least 0,50 m. Depth: 0,45 m as exposed.

The ruts are preserved as a bi-level ripple pattern on the side of a bedrock outcropping and appear to be for the same wheel, but it is not possible to determine which or to measure them accurately.

**Section L17**

Two segments of the right/SW rut for 4,00 m and 7,50 m over a distance of 19,00 m, and an 11,00 m segment of the rock-cut channel 18,80 m from the beginning of the first rut and thus overlapping with the second rut for 0,20 m, for a total road section of 27,80 m.

The channel is filled with soil to the level of the top of the left/NE wall; max. Depth: 0,50 m as exposed. Rut width: 0,30–0,40 m. Depth: 0,12 m as exposed; U-shaped in section.

**Section L18**

A 2,20 m section of the rock-cut channel traceable in the form of its left/N wall, followed by a 0,60 m segment of the right/S rut for a road section totaling 2,80 m.

The rut is 2,20 m N of the channel. Width: 0,20 m. Depth: 0,10 m.

**Road V****Section V1**

A 0,25 m segment of a single rut. Width: 0,05 m. Depth: 0,15 m; U-shaped section.

Additional traces of ruts too indistinct for measurement but possibly part of the same road can be observed nearby.

**Section V2**

The left/N rut preserved for 1,60 m, and after a gap of 7,70 m, the ruts for both wheels for 2,00 m, for a road section totaling 11,30 m.

Rut width: 0,10–0,20 m. Depth: 0,12–0,22 m. Axle span: 1,50 m.

**Section V3**

A 0,50 m section of road consisting of numerous small rut segments, the longest of which measures 0,36 m.

Rut width: 0,08 m. Depth: 0,03 m.

**Section V4**

An 8,00 m road section representing a possible turn-out. One segment of the left/N rut for 0,70 m, and after a gap of 0,80 m two segments of the right/SE rut for 1,35 m over a distance of 4,45 m; just north of these ruts, a 2,05 m segment of another rut is preserved which cannot be the left/NW rut and which has a more northern trajectory than the other ruts; it makes a gentle curve to the north: Width: 0,06 m. Depth: 0,10 m. Main ruts: width: 0,10 m. Depth: 0,25 m.

**Section V5**

An 8,50 m road section consisting of shaved back cliff face, smoothed road surface, and one set of parallel ruts. The cliff face is shaved down for a distance of at least 8,50 m, and to a height of 1,70 m. In front of the cliff, the bedrock is smoothed for a length of over 3,50 m east-west (as exposed), and to a width of 1,75 m north-south. The left/N rut is preserved for 3,20 m, only 8,00 m south of the vertical drop. Width: 0,09 m. Depth: 0,05 m. The right/S rut is only preserved in one small 0,40 m section toward the W end of the smoothed surface: Width: 0,06 m. Depth: 0,03–0,04 m. Axle span: 1,50 m.

**Channel C****Section C1**

A 9,60 m section of rock-cut channel, consisting of the N wall in the form of a vertical cut in the limestone bedrock; the channel is filled with soil, but the S wall is occasionally exposed. The channel curves to follow the contours of the scarp. Width: 0,86 m. Depth cannot be measured because of the fill.

**Section C2**

A 12,00 m section of rock-cut channel consisting of the exposed N wall following the scarp.

**Section C3**

A 9,50 m section of rock-cut channel consisting primarily of the exposed N wall; a width of 0,90 m can be measured where one curving section of the S wall is also preserved and exposed.

**Section C4**

A 5,00 m section of rock-cut channel; both walls are preserved, but the channel is still filled with soil. Width: 1,10 m as exposed. Depth: approximately 0,80–1,20 m.

**Section C5**

An 11,40 m section of rock-cut channel. Both walls are exposed for 6,40 m; thereafter only the N wall is preserved. Portions of the floor are exposed, showing that the channel was square in section, with vertical walls and carefully smoothed floor. Width: 1,17 m. Depth: 0,82 m.

**Ruts P**

A 1,20 m road section consisting of one main rut segment and small segments of ruts belonging to a secondary track. Rut width: 0,12 m. Depth: 0,09–0,15 m.

## Abstract

Jeannette Marchand, *All Roads Lead to Nemea: Physical Evidence for Ancient Roads in the Territory of Kleonai in the Northeastern Peloponnesos*

### Keywords

topography • roads • Peloponnesos • Kleonai • Nemea

This paper presents physical evidence for three ancient Greek roads in the territory which belonged to the polis of Kleonai in the northeastern Peloponnesos; thirty-three discrete road sections are documented, consisting of over sixty segments of wheel ruts and associated features such as aqueducts, retaining walls, and quarries. These roads all appear to represent local alternatives on the first portion of an important route branching off of the Corinth-Argos road at Kleonai and leading west via Nemea. Based on autopsy of the region, the reports of early travelers, likely destinations, and potential roadside features, an additional circumstantial case is made that each road had multiple branches which can be plausibly reconstructed and shown to have had diverse functions. The multiplicity of roads presented here underscores both the importance of access through Kleonaian territory for interstate travel in the Peloponnesos and the ability of a moderately sized polis to maintain and construct roads for local purposes. In the process of documenting these roads, the notion of a standard 1,40 m axle width for Greek roads is challenged and the importance of autopsy for the study of local Greek roads is stressed; ultimately, a reconstruction of the Kleonai's complex local road network is advanced which enhances the image of the polis as controlling the hub of an important crossroads of direct routes through the Peloponnesos and underscores the benefit of the city's topographical position to its long-time ally Argos.

### Sources of Illustrations

Fig. 1: Map created for this article by J. Luchin • Fig. 2. 4: Plan created for this article by B. Stiver • Fig. 3: Plan created for this article by J. Luchin • Fig. 8–11: Photographs by author • Fig. 12: Plan created for this article by J. Luchin on a ΓΥΣ 1988 aerial photograph purchased for use from ΓΥΣ • Fig. 5–7. 13–44: All photographs are by the author, all additions to photographs by B. Stiver for this article

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