

ANNE KOLB

The conception and practice of Roman rule:
the example of transport infrastructure

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The conception and practice of Roman rule: the example of transport infrastructure

“Although your empire is so large and so great, it is much greater in its good order than in its circumference. [...] (100) [...] Now it is possible for both Greek and barbarian, with his possessions or without them, to travel easily wherever he wishes, quite as if he were going from one country of his to another. And he is frightened neither by the Cilician Gates, nor by the sandy, narrow passage through Arabia to Egypt, nor by impassable mountains, nor by boundless, huge rivers, nor by inhospitable barbarian races. [...] (101) [...] you have made [this] a reality, by surveying the whole inhabited world, by bridging the rivers in various ways, by cutting carriage roads through the mountains, by filling desert places with post stations, and by civilizing everything with your way of life and good order [...].”¹

These are the words of the Greek rhetorician Aelius Aristides. Shortly after the middle of the second century AD he praised the crucial components of Roman rule in his panegyric on Rome. Besides the “greatness” of the organisation of the Empire, he highlights its immense extent and its developed infrastructure. He exemplifies his findings with prime examples. Aelius eventually equates the Roman Empire with the world (*oecumene*) itself. According to the Greek writer, the territory had been opened up and developed by surveying the land and constructing roads with their appropriate facilities. As roads were consistently cleared from natural obstacles, a complete penetration of the land – remote and hostile areas included – could be achieved. It is clear from Aristides’ remarks that the Romans embraced the whole Mediterranean with their transport system, penetrating and developing the territory and thus establishing a cultivated and organised way of life.

The present paper aims at shedding light on Rome’s strategic policy of opening up and developing conquered territory by considering the example of transportation infrastructure.² The argument is tripartite. A basic view on Roman transportation infrastructure is followed by an analysis of its function as a means of opening up and developing territory. Thirdly and conclusively, underlying principles of Roman governmental practice, highlighted by the analysis, are discussed.

* This article represents an adapted and translated version of my presentation *Strassen und Raumerfassung im Römischen Reich*, in FLESS u.a. (Hg.), *Politische Räume in vormodernen Gesellschaften. Gestaltung – Wahrnehmung – Funktion*, Tagung DAI/Exzellenzcluster TOPOI, Berlin 2012, in press.

¹ Aristeid. *or.* 26, 29, translation by BEHR (1981).

² Other strategies, e.g. urbanisation, are not discussed here as they have been covered *in extenso* before, see VOGT 1942; KIRSTEN 1958.

1. CHARACTERISTICS OF THE ROMAN TRAFFIC SYSTEM

Traffic connections – on land as well as at sea – were crucial for the vast Roman empire. They did not only allow the formation of a huge territorial state around the whole Mediterranean, but furthermore facilitated its political and administrative penetration and consolidation. Roman rule was essentially dependant on an efficient and powerful communications and transport infrastructure. As a result, the traffic connections represented the basis and medium of Roman power. They were pivotal for upholding the existence of the empire for many centuries.

On the one hand, the locomotion and transportation of people and goods in the Roman Empire was of great importance for the state, as efficient and reliable means of transportation were primarily crucial for communication, transportation of supplies and the movements of agents of the state. On the other hand, locomotion was also relevant for parts of the inhabitants of the empire, especially for those who were on the move as merchants or hauliers or for business, study or private purposes. Particularly since the times of Augustus, the Romans had established a widespread and dense traffic system, which was fostered by the centralised rule of the monarchy and the favourable social and economic conditions provided by the *pax Romana*. It consisted of a well developed system of roads, combined with the natural infrastructure of navigable rivers and lakes, which were – if necessary – complemented by newly built canals. Eventually, this traffic system contributed to the fact that mobility in the Roman Empire during the imperial period was much higher than in any other ancient society.

The important centrepiece of the Roman traffic system was a road system comprised of main roads (*viae publicae*) as well as local and regional ways. It pervaded the whole Roman Empire in a tight network, which amounted to approximately 300.000 kilometres of roadways. In this manner the Roman roads connected the provinces with the centre of Rome or the particular whereabouts of the emperor, respectively. Thus, the Roman road system structurally reflected the empire's exercise of power and acted as a symbol of Roman authority (Fig 1).³

Basically, roads between settlements already existed in prehistoric times. Of those the main trading routes attained supraregional importance as amber and salt roads. These early ways had most often fallen in line with the natural conditions of the terrain, but still systematically planned constructions existed, especially so in the cultures of the ancient Near East. The Persian Royal Road as the most important example went from Susa to Sardes in Lydia, and amounted to 2.300 kilometres in length, but was yet unpaved.⁴ In Greece, due to its geographical position, shipping was of particular importance. As a result, traffic was then mainly found at sea. Nevertheless, in classical times, Attica possessed a dense network of roads and bridle paths, which naturally linked the *Poleis* with their hinterland.⁵

It was only with the emergence of the Roman Empire that an encompassing, state-funded road system was systematically established, which eventually stretched from Hadrian's Wall in England to the Sahara and from the Atlantic Ocean to Iraq. The main

³ For the Roman roads in general see PEKÁRY 1968; RATHMANN 2003; KOLB 2005 summarising; QUILICI 2008; for the extent of the road system see FORBES 1965, 151, who postulates an overall extent of 300.000 km including approx. 90.000 km of main roads, of which 14.000 km in Italy alone; earlier assessments by BERGIER 1736, preface and 345, 90-150.000 km, further STEPHAN 1868/69, 70, 76.000-100.000 km for the main roads; cf. NEUBURGER 1919, 460; SCHNEIDER 1982, 1; ROGGE 2001, 102; SCHNEIDER 1982, 1; ROGGE 2001, 102, counts 85.000 km for the 372 main roads

at the time of Diocletian; QUILICI 2008, 551, postulates 120.000 km.

⁴ For the Persian roads see LENDLE 1987; KESSEL 1987; WIESEHÖFER 2002; for roads in Egypt see GRAEFF 2004; for the predecessors to Roman roads in hellenistic and other empires in general see FORBES 1965, 131-145; PEKÁRY 1968, 56-63; SCHNEIDER 1982, 2-11; RATHMANN 2003, 44 f.; VAN TILBURG 2007, 2-4; QUILICI 2008, 552 f.

⁵ Cf. LOHMANN 2002.

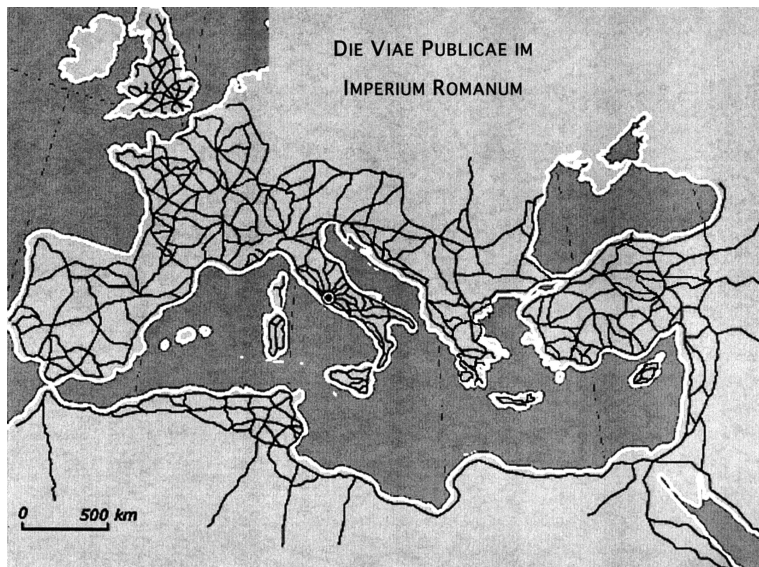


Fig. 1 – The road system of the *Imperium Romanum* in imperial times.

routes, *i.e.* the *viae publicae*, were of special importance. They had been erected by Roman magistrates, the emperor or by his order, respectively, to serve public access and usage.⁶ Still today, the many remnants of these main routes are evidence of the immensely sophisticated constructional engineering of the Romans, which featured a routing as direct as possible, even in seemingly impassable terrain. Impediments and obstacles of any kind used to be overcome by architectural measures,⁷ a fact that is testified by a great amount of archaeological remains and inscriptions. These often emphasise the arduous labour of cutting through bare rock in constructing bridges, viaducts and tunnels.

An inscription dated to 217 AD, found in the ancient province of *Cappadocia* – what is today modern Turkey – exemplarily reveals the work necessary to restore the important road to the mountain pass of the Cilician Gates (on the road from Tyana/Cappadocia to Tarsos/Cilicia), work conducted at an altitude of 1050 metres in the Taurus Mountains.⁸ According to the inscription, the emperor Caracalla had this age-worn road across the Taurus restored not only by building new bridges but by levelling mountainous terrain, cutting through rock and expanding existing routes.⁹ Comparable work had been conducted before by Trajan, who built a new and safe route of the *via Appia* to the south of Terracina along the coastline by removing a ledge.¹⁰

Normal conditions of terrain given, a Roman road consisted of a multi-layered foundation of tamped quarry stone, usually limestone, completed by a cover of stone slabs or grav-

⁶ For the latest detailed definition of *viae publicae* see RATHMANN 2003, 3–41.

⁷ Already in Antiquity this concept of direct routing is perceived as typically Roman (for Plut. *C. Gracch.* 7 see below). Archaeology emphasises the addition of straight segments and their angular connection (rather than curves), already HER-
TLEIN 1924; MARGARY 1973, 18 f.; EHRENSBERGER 1989; QUILICI 1990 with the example of the *via Appia*; DAVIES 2002, 39–52; QUILICI 2008, 560 f.; for Roman survey technology see esp. LEWIS 2001, 217–245.

⁸ Aelius Aristides refers to this mountain pass in the aforementioned excerpt, see note 1; various other sources highlight its importance in Antiquity: Xen. *an.* 1, 4, 4; Arr. *an.* 2, 4, 3; Cass. Dio 74,7,1.

⁹ IK 55 Nr. 132 (Tyana, Cappadocia): [Imp(erator) Cae-
s(ar)] / [M(arcus) Aurelius Severus Antoninus] / [P(rius) Feli]x {C}
A[ugustus Parth(icus) max(imus)] / [Brit(annicus) m]ax(imus) Ger[
m(anicus) max(imus)] pontif(ex) /⁵ [max(imus) tr]ib(unicia) potes-
t(ate) XX imp(erator) III co(n)sul IIII / [proco(n)]s(ul) p(ater) p(atriciae)
viam Tauri vetustate / [con]lapsam complanatis monti/[bus e]t c[alesis]
rupibus ac dilata/[tis i]tineribus cum pontibus / institutis restituit / a
Pylas(!) m(ilia) p(assuum) XV.

¹⁰ Numerals engraved in the rock show to which height the rock of Pisco Montano had to be removed: CIL X 6849, see RADKE 1973, 1521; ECK 2004, 19 f.; QUILICI 2008, 557 f.

el. A pavement was often only added selectively, mainly in the surroundings of cities.¹¹ Even the important *via Appia*, linking Rome with Capua at a length of 196 kilometres, seems to have had a pavement at its first stretch only.¹² If the soil was wet or even used to be flooded, roads were built above ground level. Additionally, a substruction of beams and logs was used to stabilise soft terrain.¹³ Special types of roads, such as the so called “track roads” – with ruts cut into the rock – or stairs were used to climb steep slopes (Fig. 2).¹⁴

The crucial elements of the Roman road system are addressed by Plutarch in his vita of the republican politician Gaius Gracchus. Judging by the sophisticated standards he describes, Plutarch seems to refer to the conditions of his own lifetime at the beginning of the second century AD:

But he busied himself most earnestly with the construction of roads, laying stress upon utility, as well as upon that which conduced to grace and beauty. For his roads were carried straight through the country without deviation, and had pavements of quarried stone, and substructures



Fig. 2 – Milenstones at Julier Pass.

¹¹ For a summary of Roman technics of road building see FORBES 1965, 151-155; GREWE 2008, 319-323; QUILICI 2008, 560-568.

¹² Pavement is attested for Nerva's times, CIL X 6824 = ILS 280; cf. eg. the improvements of the route from Carthage to Theveste in Northern Africa in 123 AD (CIL VIII 22173). For the history of the *via Appia* see RADKE 1973, 1439-1539; DELLA PORTELLA 2003; summarising QUILICI 2008, 553-558.

¹³ This technique is well documented for the *via Claudia*

Augusta at the so called “Prügelweg” from Biberwier to Leermoos (Austria), see recently GRABHERR 2006, 131 including research literature.

¹⁴ For the “track roads” see detailed BULLE 1948; only recently more critical SCHNEIDER 2007; Roman rut cuts are shown by GRABHERR 2006, 109, 124. Stone steps were called stairs as early as in Antiquity; SCHULER 1998, 135 f.; for an example from Lycia see KOLB 2008, 360.

of tight-rammed masses of sand. Depressions were filled up, all intersecting torrents or ravines were bridged over, and both sides of the roads were of equal and corresponding height, so that the work had everywhere an even and beautiful appearance. In addition to all this, he measured off every road by miles (the Roman mile falls a little short of eight furlongs) and planted stone pillars in the ground to mark the distances [...].¹⁵

It is clear from Plutarch's account that in the construction of roads a linear conception was followed. This precept was eventually achieved by purposefully eradicating or tunneling natural obstacles. The exact survey and division into Roman miles as well as the marking of the roads by lasting monuments of stone contributed to perfecting this Roman transportation infrastructure.

In areas where the course of rivers was suitable and easily navigable or where transportation at sea was possible, using waterways was usually cheaper and more convenient.¹⁶ Apart from the construction of sizeable ports, which served the need for food supply and commerce, the natural aquatic infrastructure could be used without pricey full-scale expansions and did not need to be maintained continuously. The Romans used waterways throughout the Mediterranean Sea. Apart from coastal shipping, direct connections on the open sea were used extensively, especially those linking Rome with Egypt or North Africa, the main regions of food supply.¹⁷ The relevance of such sea connections is apparent from several travel accounts. Longer distances were, depending on changing local and regional conditions, divided into portions by land and by water.¹⁸ This is revealed by a letter of Pliny the Younger to the emperor Trajan, in which the former reports to the latter on which routes he chose in his journey to the province:

I feel sure, Sir, that you will be interested to hear that I have rounded Cape Malea and arrived at Ephesus with my complete staff, after being delayed by contrary winds. My intention now is to travel on to my province partly by coastal boat and partly by carriage. The intense heat prevents my travelling entirely by road and the prevailing Etesian winds make it impossible to go all the way by sea.¹⁹

Inland navigation on rivers, lakes or the Black Sea was highly developed. In many regions their significance was equivalent to or even greater than that of respective land connections. This was certainly true for the Nile in Egypt or the Danube, the Rhine and the Moselle in Northern Europe. What is more, some regions possessed far reaching networks of navigable arterial waterways. The paramount example of such a network consisted of the rivers Rhône, Saône, Loire and Meuse in Gaul.²⁰ On the one hand, this natural infrastructure was used down- as well as upstream by utilising various types of boats and different techniques of locomotion, such as sailing, rowing or hauling. On the other hand, these networks were systematically expanded by the construction of canals.²¹ It was in this field – analogous to the construction of roads – that the pragmatic, innovative and technologi-

¹⁵ Plut. *C. Grach.* 7; translation by Perrin (Loeb 1959).

¹⁶ Cf. Tac. *ann.* 13, 53; Plin. *ep.* 10, 41; Ed. Diocl. 17,5; JONES 1964, 841-842; HOPKINS 1983; LAURENCE 1999, 95-100; for classical and Roman shipping in general see CASSON 1995; MAC GRAIL 2008; for harbour installations see BLACKMAN 2008.

¹⁷ These important and heavily used routes are listed by Pliny the Elder in a listing of especially swift passages: *Nat.* 19, 1, 3-4; see also KOLB 2000, 318.

¹⁸ Ovid. *tr.* 1,10; Stat. *silv.* 3,2; Auson. *Mosella*; Rut. *Namat. de reditu suo*. On the importance of maritime and river navigation in itinerary literature see SALWAY 2004.

¹⁹ Plin. *ep.* 10, 15: *Quia confido, domine, ad curam tuam pertinere, nuntio tibi me Ephesum cum omnibus meis ἐπὲρ Μαλέαν να-*

vigasse quamvis contrariis ventis retentum. Nunc destino partim orariis navibus, partim vehiculis provinciam petere. Nam sicut itineri graves aestus, ita continua navigationi etesiae reluctantur; cf. *Tra. ep.* 10, 16, who too emphasises the necessary change of method of transportation: *Recte renuntiasti, mi Secunde carissime. Pertinet enim ad animum meum, quali itinere provinciam pervenias. Prudenter autem constitui interim navibus, interim vehiculis uti, prout loca suaserint.* Translation by Radice (Loeb 1975).

²⁰ Strabo 4, 6, 14; Tac. *ann.* 13, 53; for the usage of the river Rhône in connection with roads see CHRISTOL – FICHES 1999.

²¹ For Roman canal engineering see WHITE 1984, 110-112; more recently GREWE 2008, 333-336.

cally superior skills of the Romans in planning and building construction unfolded. Tradition has it that, in the second century BC, M. Aemilius Scaurus, the constructor of the *via Aemilia*, constructed navigable canals between Modena and Parma for the purpose of drainage.²² In the year 104/3 BC, the consul Marius built a canal in the Rhône delta from Arles to the Mediterranean Sea to counteract the persistent drying up of the area, which was an impediment to shipping.²³ Also well-known is the canal situated alongside the *via Appia* in the Area of the Pontinic swamps, built in the first century BC. Horace immortalised it in his satires.²⁴ This canal was 19 Roman miles long and functioned complementary to or even instead of the road between *Forum Apii* and *Terracina* whereby it was mainly used by night, the ships being hauled upstream. As a commander, Drusus is likely to have built one or more canals between the lower Rhine and the North Sea since 12 BC. The project, from which no clear remnants remain, was part of the measures taken during the Augustan expansion in Germania.²⁵ In the year 47, the 23 miles long (32 km) *fossa Corbulonis* was built between the Meuse and the Rhine by the commander Cn. Domitius Corbulo, establishing a direct navigable link between the two rivers.²⁶ During his Dacian Wars, the emperor Trajan had a canal built alongside the upper Moesian Danube, which measured three kilometres in length and 14 metres in width. It was a way to bypass the rapids at the Iron Gates (near Djerdap).²⁷ In Egypt, the canal linking the Nile with the Red Sea (ποταμὸς Τραιανός) – a precursor to the modern Suez Canal – was not only restored by the same emperor, but even newly laid out in its first section, perhaps in order to facilitate the supply of his war against the Parthians.²⁸ Trajan's canal was probably used only seasonally, but at least up to the fifth century AD, as document papyri, which mention regular maintenance and upkeep.²⁹ Tacitus and Pliny describe two other Roman projects, which in the end could not be realised. In the year 59 AD the commander of the upper German army, L. Antistius Vetus, planned to establish a navigable link between the Meuse and the Saone.³⁰ Later, during his governorship in Pontus-Bithynia, Pliny proposed the building of a canal to the emperor, which would have redirected the two rivers Sangarios and Melas into the Sapanka lake.³¹ Such a connection would have established a navigable link between the Black Sea and the Sea of Marmara. Probably due to Pliny's death in the year 113 and due to the conflict with the Parthians the project was not carried out, although Trajan had approved of it.

2. TRANSPORTATION INFRASTRUCTURE AS A MEANS OF OPENING UP LAND IN DIACHRONIC PERSPECTIVE

The construction of the Roman imperial roads had substantially been carried out since the fourth century BC in order to link the newly conquered areas with the centre of the empire and to secure them militarily. Thus, the emergence of the great imperial roads reflects Roman expansion, which began on Italic soil and was subsequently advanced to the west and the east. The Roman expansion on the Italic peninsula to the south manifested

²² Strabo 5,1,11; imperial canal building in the Po area is mentioned by Pliny the Elder, *N.H.* 3, 119-122 e.g. a *fossa Augusta* or a *fossa Flavia*; cf. SMITH 1977, 77; UGGERI 1998, 195 f.

²³ Strabo 4, 1, 8; Plin. *n.h.* 3,34; Plut. *Marius* 15; VELLA U.A. 1999; GREWE 2008, 335.

²⁴ Hor. *sat.* 1, 5; for the description of the journey cf. STEPPER 2002; Strabo 5, 3, 6; for the canal cf. GREWE 2008, 335.

²⁵ Tac. *ann.* 2, 8; Suet. *Claudius* 2; GREWE 2008, 335; concerning the identification see HUISMAN 1995; MAKASKE 2008, especially 327 f., 335.

²⁶ Tac. *ann.* 11, 20; GREWE 2008, 335.

²⁷ See the building inscription AE 1973, 475 = IJug 2, 468 with remarks by ŠAŠEL 1973.

²⁸ It seems that the canal was built by directly diverting the Nile at Babylon, where a Roman military camp was situated. Its precursor, built by Pharaoh Necho II. (610-595 BC), was attached to the Pelusian arm of the Nile; SJPSTEIJN 1963, 71 f.; summarising with further literature JÖRDENS 2009, 417-423.

²⁹ SJPSTEIJN 1963, 72-77; newly edited documents in JÖRDENS 2009, 420, 422.

³⁰ Tac. *ann.* 13, 53; GREWE 2008, 334 f.

³¹ Plin. *ep.* 10, 41 f.; GREWE 2008, 335.

in the construction of the *via Appia*, which, according to Frontinus, was built by the censor Appius Claudius Caecus in the year 312 BC, 30 years after the beginning of the Samnite Wars.³² Being the first imperial road to be planned and built systematically, it went in a straight line from Rome to Capua and replaced the coastal road as well as the older and longer *via Latina*, which lead through a mountainous area. To cross the Pontinic Swamps between *Forum Appii* and Feronia a drain and tow canal – as mentioned by Horace – was built alongside the road, allowing the passage of the unfavourable terrain at any season of the year.

In the provinces, Roman involvement in road building is first traceable only after the middle of the second century BC, when the *via Egnatia* was constructed in Macedonia. It is thus very likely that the Romans refrained from interfering with local networks of roads in the then already extant provinces – e.g. in *Hispania citerior* since 197 BC – as long as these roads met the predominantly military needs of the Romans. But although we lack conclusive evidence, the most important routes might at least have been mended.

The famous Macedonian route mentioned by Polybius, the *via Egnatia* leading from Apollonia (Dyrrhachium/Epidamnos respectively) to Thrace, is a good example of how the Romans used to secure newly gained territory.³³ From as early as the fourth and the third century BC at the latest, boundary stones marking the route of an already existing Macedonian east-west link are preserved,³⁴ which presumably trace back to preceding Greek or even older trading routes.³⁵ Younger are the several Macedonian distance markers from the third and second century BC, which were partially found *in situ* along the route later to be known as the *via Egnatia*.³⁶ They document the further expansion of the important east-west link undertaken by the rulers of Macedonia, the measures later to be documented by Livy. He reports building efforts conducted by the Macedonian King Philipp V. (222-179 BC), namely the construction of bridges and the repair of certain stretches of the route, which Tiberius Sempronius Gracchus got to know during his visit of Pella in the year 190 BC.³⁷ The incorporation of the existing road into the Roman road system is first attested by a milestone of the Proconsul Gnaeus Egnatius (143 BC?), which, in accordance with its place of discovery (west of Thessalonica) and the literary tradition, names 260 miles.³⁸ Whether there were more building measures conducted other than erecting milestones, the written sources do not tell. However, archaeological evidence testifies the straightening of winding stretches of the road by the Romans.³⁹

³² Frontin. *aq.* 5; for the history of the *via Appia* see note 12.

³³ Pol. 34,12, 2a-8 (following Strabo 7, 7, 3-4); for the *via Egnatia* see summarising and with the most important older literature LOLOS 2007; cf. the survey by FASOLO 2003; justifiably critical thereto HÖCKER 2007, 369-371; for the latest research on the *via Egnatia* see the 2009 conference proceedings of the Via Egnatia Foundation.

³⁴ The first two stones to be discovered were found in Drama (HEUZEY – DAUMET 1876, 143 Nr. 73) a third one in Philippi (COLLART 1933, 313-379, 363), each bearing the inscription ὄρος τῆς ὁδοῦ; after the first publications republished by EDSON 1951, 11-12 Nr. 1-3; cf. ADAMS 1982, 272-273; further cf. KOUKOULI – CHRYSANTHAKI 1992, 73; KOUKOULI – CHRYSANTHAKI 2001, 53-64.

³⁵ FASOLO 2003, 119-123.

³⁶ This is true for the stone from Tserovo (east of Edessa) dating to the middle of the third century BC or earlier, see Mordtmann 1893, 419 = Dimitsas 1896, 393 Nr. 4 = EAM 105 Nr. 109: Ἐγ Βοκερίας στάδιοι ἑκατόν; cf. EDSON 1951, 4 Nr. 1; ADAMS 1982, 276; KOUKOULI – CHRYSANTHAKI 2001, 54. This stone gives a distance of 100 Greek stadia from

the place Bokeria, which equals 12 Roman miles. According to Roman itineraries a Roman *mutatio* (*Ad duodecimum*) was situated at exactly the same distance west of Edessa; the place might have had a long tradition, accordingly. The other two distance markers stem from Kalambaki (near Philippi, situated in the north-west, dating from the late third or early second century BC) see KOUKOULI – CHRYSANTHAKI 2001, 53 (SEG 51, 823): ἐκ φιλιππων στάδιοι τριάκοντα. // ἐξ Ἀμφιπόλ[εως] στάδιοι διακόσ[ιοι ...] [----] *vacat* Δ[.], and from Vryssakia (near Pella, second century BC) see PANAYOTOU – CHRYSOSTOMOU 1993, 393-394 Nr. 21 (SEG 43, 442): ἐκ Πέλλης στάδιοι εἴκοσι; cf. KOUKOULI – CHRYSANTHAKI 2001, 54.

³⁷ Liv. 37,7,8-15; for the road building activities of the Macedonian kings see already Thuc. 2, 100, 2 (concerning Archelaos); cf. KOUKOULI-CHRYSANTHAKI 2001, 54-64.

³⁸ CIL I 2977 = ILGR 246 = AE 1973, 492 = AE 1976, 643 (Thessalonica, Macedonia): CCLX / Cn(aeus) Egnati(us) C(ai) f(ilius) / proco(n)s(ul) // Γναῖος Ἐγνάτιος Γαῖου / ἀνὸς ἄνατος Ῥωμαίων / σξ'; WALBANK 1985, 458 f.

³⁹ FASOLO 2003, 248.



Fig. 3 – A Milestone of Aquilius IK 17, 2, 3602.

This approach of adopting and optimising the road system already extant in a province by setting up milestones or straightening roads is testified by further evidence from other provinces. In the years from 129 to 126 BC, Manlius Aquilius, governor of *Asia*, improved the roads in his province by setting up milestones (Fig. 3).⁴⁰ Yet, the existence of pre-Roman roads – not very surprisingly exactly in the area where the *miliaria* of Aquilius were found – is attested by a Hellenistic road marker. David French has rightly identified a rectangular stone, first published as “a milestone on the way from Ephesos to Sardis”, as a distance marker of Hellenistic origin. Besides palaeographic characteristics, French’s identification was mainly based on the mention of the distance given on the stone, which points at a place 90 Greek *stadia* from Ephesos and 40 *stadia* from Sardeis.⁴¹ Such stones were eventually either amended by Aquilius or wholly replaced with stones counting in Roman miles.

That the Romans approached the extension of the transport infrastructure step by step is attested by Polybius as

well. He extensively describes the link between South Spain (Carthago Nova) and Italy by giving the lengths of the different sections of the road in Greek *stadia*.⁴² He then points out that only the section between Narbo (Narbonne) and the estuary of the Rhône had thoroughly been surveyed by the Romans. As a result, this passage had been marked in intervals of 8 *stadia*, which more or less equal one Roman mile.

Later, during the Roman Empire, this basic method of drawing on already established structures was retained. This is impressively visualised by the great monument of Patara in Lycia, the so called *Stadiasmus provinciae Lyciae* of 45 AD, which epigraphically documents 65 routes of the provincial road system.⁴³ The routes listed, including foot and bridle paths of this mountainous region, are likely to have existed in pre-Roman times. It is doubtful that such comprehensive road building was conducted in a period of only two years after the invasion of the Roman troops under Quintus Veranius (43 AD). As a matter of fact, the army was first of all fully stretched with the conquest and consolidation of the land shaken by civil wars, a fact that is attested by the inscription on the front of the stone

⁴⁰ E.g. IK 17,2 Nr. 3601. 3602 = CIL I² 651 cf. p. 725 = CIL III 14202.4 = ILS 5814 = IGR IV 1659 = ILLRP 456; PEKÁRY 1968, 46, 139; for an overview of the sources see RATHMANN 2003, 150–152.

⁴¹ FRENCH 1997 (SEG 47, 1997, 1624). Recently, a more exact dating of the stone to the years 159/8 or 138/7 BC has been proposed by THONEMANN 2003, 95–96.

⁴² Pol. 3,39,8; for a discussion on the authenticity of this passage see most recent RATHMANN 2003, 52 n. 301.

⁴³ On the narrow front of the pillar monument an honorary inscription for Claudius has been incised; both sides bear the building inscription with the listing of routes; cf. the edition of SAHIN – ADAK 2007; for the significance of the inscriptions see KOLB (forthcoming).

itself.⁴⁴ The building of a bridge was only finished later under the administration of the next governor.⁴⁵ Although the list of routes is preceded by a statement of the emperor Claudius that by his order the governor extended all the streets,⁴⁶ these extensions are likely to be interpreted as measurements and constructional improvements, perhaps in some cases as partial extensions of the existing network of roads.⁴⁷

In some regions, especially in the sparsely populated ones, the Romans were confronted with the inappropriateness or even the non-existence of road systems. As a result, a systematic planning from scratch was needed in order to open up and incorporate the territory. Unfortunately, only little evidence is known that shows such structure planning and its implementation in the form of a network of roads. For Gaul, Strabo has put down the measures which M. Vipsanius Agrippa carried out during his governorship in the years 20 and 19 BC:

Lugdunum is in the centre of the country – an acropolis, as it were, not only because the rivers meet there, but also because it is near all parts of the country. And it was on this account, also, that Agrippa began at Lugdunum when he cut his roads – that which passes through the Cevennes Mountains as far as the Santoni and Aquitania, and that which leads to the ocean (the one that runs by the Bellovaci and the Ambiani); and, a fourth, that which leads to Narbonitis and the Massilian seaboard.⁴⁸

Agrippa's design shows how four main routes were established as major axes, springing from the most central place of Lyon to several directions (to the west, north, northwest and south).

Similar structural planning is known from Dalmatia, which was established as a province sometime after 9 AD, thanks to a building inscription on several stone slabs, the so called *Tabulae Dolabellae*. According to the inscription, the emperor Tiberius had at least five major roads built between 16/7 and 19/20 AD by his legate Lucius Cornelius Dolabella. The routes are described in orientation and length.⁴⁹ The inscription thus documents the systematic planning and opening up of the new province by newly built streets, measured

⁴⁴ SAHIN – ADAK 2007, 29 n. 35 (SEG 51, 1832): Τιβερίου Κλαυδίου Δρούσου [υ]ἱὸς Καίσαρι Σεβαστῶι Γερμανικῶι ἀρχιερεῖ με[γ]ίστῳι δη]μαρχικῆς ἐξου[σ]ίας τὸ πέμπτον [αὐ]-τοκράτορι τὸ ἐνδέκατον πατρι πατρίδος ὑπάτω[ι] τὸ τέταρτον ἀποδεδειγμέν[ω]ι σωτήρι τοῦ ἑαυτῶν ἔθνους Λύκιοι φιλοφώμιοι καὶ φιλοκ[α]ίσαρες πιστοὶ σύμμαχοι ἀπαλλαγ[έ]ν[τε]ς στάσεως καὶ ἀνομίας καὶ ληστ[ε]ῖων [δι]ὰ τῆν θείαν αὐτοῦ πρόνοιαν. ἀπειλη[φ]ότες δὲ ὁμό[νο]ιαν καὶ τὴν ἴσην δικαιοδ[ο]σίαν καὶ τοὺς [π]α[τρί]ους νόμους, τῆς πολιτείας τοῖς ἐξ ἀρίστων ἐπιλεγμένοις βουλευταῖς ἀπὸ τοῦ ἀκρίτου πλήθους πιστευθεῖσης, [δι] ὅ τῆς πατρίδος ὑπ[ὲρ] αὐτοῦ (?) ἐπεκρα[τ]ήθησαν διὰ Κοίντου Οὐρηαν[ίου] πρεσβευτοῦ κ[αὶ] ἀντιστρατήγου Τιβερίου Κλαυδίου Καίσαρος Σε[βα]στοῦ.

⁴⁵ AE 1998, 1399 (Kemerarasi / Oenoanda, Lycia et Pamphylia).

⁴⁶ SAHIN – ADAK 2007, 37: [Τιβε]ρίου Κλαυδίου Δρούσου / υἱὸς Καίσαρ Σεβασ[τ]ός Γερμανικὸς ὁ τῆς οἰκουμένης Ἀὐτοκρά[τ]ωρ ὁδοὺς καθ' ὅλην Λυκίαν ἐποίησεν διὰ τῆν Κοίντου Οὐρηαν[ίου] / τοῦ ἰδίου π[ρεσβευ]τοῦ ἀντιστρα[τ]ήγου ὑπερ[ε]σίαν ὧν ἔστιν μέτρον τὸ ὑπερ[ε]γεγραμμένον.

⁴⁷ All of these activities were carried out in direct cooperation with the indigenous population; if not by the indigenous people themselves, cf. MARKSTEINER – WÖRRLE 2002, 561 f.; KOLB (forthcoming).

⁴⁸ Strabo 4, 6, 11; see RATHMANN 2003, 20–22. Translation by Jones (Loeb 1969).

⁴⁹ CIL III 3198a = 10156a p. 2275, 2328¹⁹ = ILS 5829

und CIL III 3200 = 10158 p. 2328¹⁹ = ILS 2478 = ILJug 262 (Plates I–II): see now CIL XVII/4, pp. 130–131 [Ti(berius) C]aesar divi Aug(usti) f(ilius) / [A]ug(ustus), imp(erator), pontif(ice) max(imus), / [trib(unicia)] potest(ate) XIIIX, co(n)s(ul) II, / [----] / [viam] a colonia Salonitan(a) /⁵ [ad] fin[es] provinciae Ill-yrici / [inferioris?--] // cuius viae millia passus sunt / CLXVII, munit per vexillarios / leg(ionis) VII et XI. /¹⁰ Item viam Gabini- nam / ab Saloni Andetrium aperuit / et munit (vac. circ. 5) pe[r] leg(ionem) VII / [P(ublio) Cornelio Dolabella] / [leg(ato) pro] pr(ae- tore); CIL III 3201 = 10159 p. 232819 = ILS 5829a and CIL III 3198b = 10156b = ILS 5829 = ILJug 263 (Plates III–IV): CIL XVII/4, pp. 131–132 [Ti(berius) C]aesar d[i]vi Ag(usti) f(ilius) / [A]ug(ustus), imp(erator), pontif(ice) max(imus), / trib(unicia) potest(ate) XXI (vac.), co(n)s(ul) III, / viam a Saloni ad He[dum] castel(lum) /⁵ Daesitiatum per mill(ia) [passuum] / CLVI munit, / et idem viam ad Bat[finum] flu[m]en, / quod dividit Breu[cos] – circ. 8–10–[tibus], / a Saloni munit per [millia] pas[suum] /¹⁰ CLVIII, // [et idem viam ---] / munit ad inum montem Ditionum / Ulcirum (vac.) per millia passuum / a Saloni LXXVIII /¹⁵ P(ublio) Dolabella leg(ato) pro / pr(ae)to[re]; CIL III 3199 = 10157 = CIL XI 642* I n. 4 (Table V): CIL XVII/4, pp. 132–133 [Ti(berius) C]aesar divi Aug(usti) f(ilius) Aug(ustus), / imp(erator), pontif(ice) max(imus), trib(unicia) potest(ate) XIIIX(?), / co(n)s(ul) ite[r]um, / viam a coloni[a] Salonitana --- munit? /⁵ P(ublio) Dolab[ella], leg(ato) Aug(usti) pr(o) pr(ae)to[re]; see SCHMIDT 2006; KOLB 2007, 178–179.

in miles; a task undertaken by the governor with the help of the Roman army. The inscription seems to stem from a huge monument, which was set up to monumentally celebrate the building of the roads as well as the glory of the emperor. One could imagine an arch or a statue with a base cased by the stone tablets bearing the inscription (Fig. 4).

In the manner of the so called *Stadiasmus Lyciae* and a series of other memorials, this monument might not primarily have had the functional purpose of a directory of roads for travellers passing by. Such a usage can only be seen as side benefits of such representative monuments.⁵⁰ Their main function must have been the propagation of Rome's measures and efforts in actively shaping space and territory. As a result, the inscriptions emphasise the structures and practice of the Roman imperial state.

As regards the opening up of new territory in the provinces of the *Imperium Romanum*, evidence shows that the transportation infrastructure was installed step by step. Besides the incorporation and improvement of existing routes, the systematic establishment of a road system from scratch was the norm in inappropriately equipped regions. After having conquered and established a province, the Romans aimed at systematically expanding and completing the road system as a means of establishing their rule. As a matter of fact, additional *viae publicae*, which seemed to be useful, were constructed – even if they did not primarily answer to military or political necessities. Administrative pervasion and economic development could only be pursued during the Empire, as is testified by a massive expansion of the provincial transportation infrastructure since the times of Augustus.⁵¹ What is more, the *viae publicae* were upgraded with facilities for the communications of the state, an essential prerequisite for government and administration. In some regions the system of transportation was being elaborated even further, based on local conditions and in order to meet local necessities.

Well known is the first phenomenon, the systematic establishment of accommodation and supply facilities alongside the main routes. The main aim of such roadhouses was the support of Roman office-holders. Apparently, these roadhouses were built shortly after the establishment of a given province. In analogy to the system of provincial road building, the organisation and maintenance of these roadhouses was a liability of the local population. They were committed to provide the appropriate services, even building measures if needed.⁵² No better than sporadically, these efforts were subsidised by the emperor. Only in sparsely populated regions the emperor was compelled to establish these stations at his own account. As a compromise he could found a new settlement, which was then made responsible for the maintenance of the facilities. Such a scenario is reported by the familiar building inscriptions of the emperor Nero, found in Thrace, which was granted the status of province in 45 AD. The texts give an account of accommodations and roadhouses built alongside *viae publicae* and *viae militares*, respectively.⁵³ Still Septimius Severus founded the emporium Pizos (today Cakarlar near Cirpan), the settlers of which had to ensure the running of state-owned roadhouses.⁵⁴ How such facilities, built by local magistrates, had to look like and which features were necessary, is now for the first time illustrated by a new inscription as well as by excavation findings of such a *praetorium* in Macedonian Dion (today Dio, south of Katerini in Greece).⁵⁵

⁵⁰ KOLB 2007; KOLB (forthcoming); cf. SALWAY 2001.

⁵¹ RATHMANN 2006, 206–216.

⁵² KOLB 2000, 123–153.

⁵³ CIL III 6123 (Mihilci, Thracia): [Ner]o C[la]ud[iu]s / divi Claudi f[iliu]s / Germ(anici) Caesaris n(epos) / Ti(beri) Caesaris Aug(usti) / ³ pron(epos) divi Aug(usti) abn(epos) / Caesar Aug(ustus) Germ(anicus) / pontif(ex) max(imus) trib(unicia) pot(estate) / VIII imp(erator) VIII co(n)s(ul) IIII / p(ater) p(atriciae) / ¹⁰ tabernas et praetoria / per vias militares / fieri iussit per / T(itum) Iulium Ustum pro-

c(uratorem) / provinciae Thrac(iae); AE 1912, 193 = IG Bulg V 5691 (Butchino, Thracia); another fragment mentioned in IG Bulg V 5691 (Belozem, Thracia); AE 1999, 1397 (Ihtiman, Thracia); cf. CHRISTOL 1998, 792–797; for the denomination of the *viae publicae* as *viae militares* see the summary of RATHMANN 2003, 23–41; SPEIDEL 2004.

⁵⁴ SIG² 880 = IGRR I 766 = IG Bulg III/2 1690, esp. Z. 66 ff. (a. 202); KOLB 2000, 128 f., 185 f.

⁵⁵ AE 2000, 1295 (Dion, Macedonia): *Ex mandatis* /



Fig. 4 – The *Tabulae Dolabellae* in the Split Museum.



Fig. 5 – Milenstones of the Dipotamia flumen.

The second phenomenon is only attested for Crete, nevertheless in an astonishing amount of documents. As a matter of fact, nine stone inscriptions from the area of the Cretan Hierapytna show that Claudius had roads and footpaths built by his Quaestor.⁵⁶ This source is testimony to the fact that besides the main routes – the *viae publicae*, which usually were the main concern of the state – footpaths were built in addition. Thus an encompassing local network and a highly developed system of roads were created.

It is the building of canals that also documents the qualitative improvement and completion of the transport infrastructure on behalf of the Roman emperors. The number of waterways, built to expand and facilitate the navigability of certain areas and to usefully complement the road system, increases throughout the Roman Empire. Besides the aforementioned ποταμός Τραιανός in Egypt,⁵⁷ an endeavour undertaken by Vespasian to build a new canal to the north of Antioch, by which the rivers Orontes and Karasu were united in one single riverbed, is of some importance.

This canal was expected to better and

extend the traffic connection of the politically and militarily important metropolis to its hinterland and to the Euphrates (Fig. 5).⁵⁸

It is of special relevance that in this case the canal was marked with milestones just like a *via publica* and was thus, speaking in terms of traffic, equated with such a road. This is, firstly, illustrated by the inscription, which names the location of the first mile. Secondly, the epigraphic monument itself is telling as it was carved to the typical form of a milestone with its column shaft ending in a rectangular basis. As a result, this canal is marked as an integral part of the Roman transport infrastructure.

P(ubli) Mestri C(ai) f(ili) Pal(atina) Pomponiani Capitonis II(viri) / Mestriae C(ai) f(iliae) Aquilinae sacerdotis Minervae / C(aius) Mestrius C(ai) f(ilius) Pal(atina) Priscus Maianus N(umerius) Mestrius C(ai) f(ilius) /⁵ Pal(atina) Priscus praetorium cum tabernis duabus / et apparatus ea quae infra scripta est / lectis cubicularibus V culcitis V pulvinis V / subselis X cathedris II triclinio aerato culci/tis III emitulis III pulvinis longis III foco ferreo /¹⁰ mensis XX grabattis XX emitulis XX haec omnia / colonis de sua pecunia faciendum curaverunt / idemque dedic(averunt); Pandermalis 2002, 104–107.

⁵⁶ IC III 25–29 (Hierapytna, Kreta); SEG 49, 1999, 1231 = AE 1999, 1742; BALDWIN BOWSKI 2006 (Hierapytna, Kreta): Τιβ. Κλαύδιος Καί/σαρ Σεβαστός Γερ/βανικός τὰς ὁδοῦς/καὶ τοὺς ἄδροβὰ/μοσνας ἀποκατέσ/τησεν διὰ Κ. Πα/κωνίου Ἀγριπεί/νου ταμίου Β'/καὶ ὀροθέτου.

⁵⁷ See above note 28.

⁵⁸ AE 1983, 927 (Kucuk Dalyan Koyu, Syria): *Imp(erator) / Vespasianus Caesar / Augustus pontif(ex) max(imus) / trib(unicia) pot(estate) VI imp(erator) XII p(ater) p(atriciae) co(n)s(ul) VI / designatus VII censor / Imp(erator) Titus Caesar Augusti f(ilius) / pontif(ex) max(imus) trib(unicia) pot(estate) IV / [co(n)s(ul) II]II designatus V censor / [[Domitianus]] Caesar / Augusti f(ilius) co(n)s(ul) III / M(arco) Ulpio Traiano leg(ato) / Aug(usti) pro pr(aetore) Dipotamiae / fluminis ductum millia(!) / passus tria cum pontibus / [pe]r milites legionum IIII / [III Gal]l(icae) IV Scyt(hicae) VI Ferr(atae) XVI Flaviae / [ite]m cohortium XX / [item?] Antiochensium / [facien]da(?) curaverunt / m(ille) p(assus) I; see VAN BERCHEM 1983; VAN BERCHEM 1985; MILLAR 1993, 86 f.; KOLB 1996, 113–115; VAN NIJF 1997, 90 f.; GEBHARDT 2002, 68 f.*

But this equation of streets with canals as main routes was not a new phenomenon. Suetonius and Cassius Dio report that it was Augustus, who made an attempt in repairing extant and building new irrigation canals in Egypt.⁵⁹ As a matter of fact, the first *princeps* had a canal built in Alexandria, named *flumen Sebaston* / ποταμὸς Σεβαστὸς, which ran through the city and functioned as a direct link to the Canopian branch of the Nile. This is attested by a building inscription⁶⁰ (Fig. 6) from Alexandria as well as a milestone showing that the canal had been marked by further milestones along its way of more than 25 miles (37 km) outside the city to its estuary in Schedia.⁶¹ The use of milestones shows that the *flumen Sebaston*⁶² was an integral part of the transport infrastructure.⁶³ The milestones further rule out a primary usage of the canal as a water conduit, an interpretation which was and is eventually still brought forward in research.⁶⁴

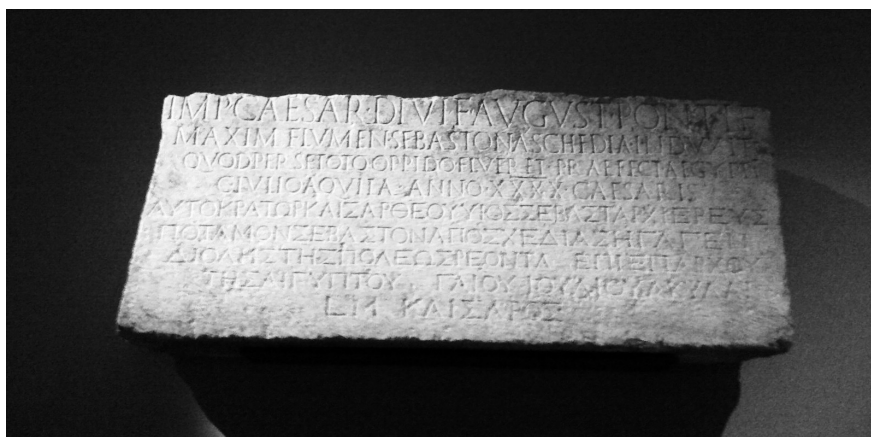


Fig. 6 – A building tablet from Alexandria CIL III 12046.

⁵⁹ Suet. *Aug.* 18; Dio 51,18,1.

⁶⁰ CIL III 12046 = ILS 5797 = Kayser 1994, N. 3bis (Alexandria, Aegyptus): *Imp(erator) Caesar divi f(ilius) August(us) pontif(ex) / maxim(us) flumen Sebaston a Schedia induxit / quod per se toto oppido flueret praefect(o) Aegypti / C(aio) Iulio Aquila anno XXXX Caesaris* // Αὐτοκράτωρ Καῖσαρ θεοῦ υἱὸς Σεβαστ(ὸς) ἀρχιερεὺς / ποταμὸν Σεβαστὸν ἀπὸ Σχεδίας ἤγαγεν / δι' ὅλης τῆς πόλεως ῥέοντα, ἐπὶ ἐπάρχου / τῆς Αἰγύπτου Γαῖου Ἰουλίου Ἀκύλα{ι} / (ἔτους) μὲν Καίσαρος.

⁶¹ AE 1905, 39 = ILS 9370 = IGLAlexa 49 (Alexandria, Aegyptus): *Imp(erator) Caesar divi f(ilius) August(us) / pontif(ex) maxim(us) flumen Sebaston / ab schedia induxit a milliario / XXV quod per se toto oppido flueret / praefecto Aegypti C(aio) Iulio Aquila anno / XXXX Caesaris* Αὐτοκράτωρ Καῖσαρ [θεοῦ] υἱὸς Σεβ[αστ]ὸς / ἀρχιερεὺς ποταμ[ὸν] Σεβασ[τὸν] ἀπὸ Σχεδίας ἤγαγεν ἐπὶ σταδ[ί]ου[ς] διακοσίου[ς], / ῥέοντα δι' ὅλης τῆς πόλεως, ἐπὶ ἐπάρχου / τῆς Αἰγύπτου Γαῖου Ἰουλίου Ἀκύλα / (ἔτους) μὲν Καίσαρος; cf. CLAUSS 2003, 139.

⁶² The canal has not yet convincingly been identified with an already know waterway: BERNAND'S 1970, 338, equation of the *flumen Sebaston* with a waterway called Agathodaimon (OGIS 672 = IDelta 332,3) cannot be finally proven; nevertheless, the thesis is followed by BONNEAU 1993, 7, JÖRDENS 2009, 416 and ZIMMERMANN 2003, who further unconvincingly claims a change of name from *flumen Sebaston* to Agathodaimon by Vespasian due to ideological reasons. On the other hand, FRASER 1972, 80 f. and KAYSER 1994, 18 assume different canals. Already SCHIFF 1903, 378 on good grounds identified the Agathodaimon with den Canopian arm of the Nile (μέγας ποτα-

μὸς). After all, the types of monuments belonging to the building inscriptions for the canals don't support the equation of *flumen Sebaston* with Agathodaimon: The stone slab (CIL III 12046), which was found in the proximity of the Canopian city gate, probably marked the entry of the *flumen Sebaston* into the city (*toto oppido flueret*). Beyond the city the canal was then marked by monumental milestones (IGLAlexa 49 gives 2,36 m in height, 0,6 m in diameter). The Agathodaimon, on the other hand, was equipped with 14 smaller plates (πλάκες OGIS 672 gives 0,81 × 0,51 × 0,8 m) by Titus in the year 80/81. Those were presumably attached to the bank reinforcement. The assumption of an equation of the two waterways has to answer the question why Titus, who together with his father marked the canal in Antiochia (*Dipotamia flumen*, above) with milestones, in Egypt replaced or supplemented the 25 milestones with 14 plates. Even in the case of a change of name (ZIMMERMANN 2003), putting a new inscription onto the extant milestones or adding new milestones to the already existing ones would have seemed more reasonable. The unchanging name of the ποταμὸς Τραιανὸς throughout several centuries does, in addition, further undermine the thesis of an equation of *flumen Sebaston* and Agathodaimon.

⁶³ This is substantiated by the designation as *flumen*/ποταμὸς, in opposition to the irrigation and drainage canals, which more often are labelled *fossa*/διῶρυξ; cf. for questions of terminology in Egypt elaborately BONNEAU 1993, 5-33.

⁶⁴ With this in mind still KAYSER 1994, 19: «faisait donc certainement fonction d'aqueduc, mais on ne peut exclure qu'il ait également pu servir à la navigation».

3. PRINCIPLES OF ROMAN RULE AS EXEMPLIFIED BY THE TRANSPORTATION INFRASTRUCTURE

With respect to the implementation of the transport infrastructure, different aspects, which determined the concept and the procedure of the Romans, have been highlighted. Indeed, Plutarch's description of the activities of Tiberius Gracchus suggests that the opening up of territory followed the principle of linearity. In practice this concept is reflected in the routing, which concentrated on directness, and in the construction engineering used to reduce, circumvent or completely remove obstacles, namely the construction of bridges, tunnels and canals.

As routes and roads followed straight lines and markers in the area, the transport infrastructure and the traffic system, i.e. the practical movement in the terrain, were based on a simple, one-dimensional and hodologic perception of space, although the discipline of geography had already developed a geometric, two-dimensional concept.⁶⁵ In terms of locomotion, the milestones alongside the *viae publicae*, which marked the roads and with their inscriptions gave the distances from and to certain places, illustrate this perception.⁶⁶ It is documented by the famous *Elogium of Polla* dating from the end of the second century BC. According to the inscription, the yet not clearly identified builder established the road from Capua to Regium and equipped it with milestones and platelets.⁶⁷ The inscription gives a listing of the exact distances between the most important places. As a result, this republican *elogium* can be identified as a precursor to the imperial honorific monuments of later times, which, by naming the precisely measured routes, publicly and effectively illustrate the opening up of territory (Fig. 7).⁶⁸

In the same vein, ancient functional literature for travellers – the so called itineraries – followed this same concept of a linear and route-based conception of space. The most comprehensive copies dating from the third and fourth century AD are the *Itinerarium Antonini* and the *Itinerarium Burdigalense*. The latter describes the route of a Christian pilgrim from Bordeaux to Jerusalem in the year 333 AD.⁶⁹ The *Itinerarium Antonini* records more than 2000 place names and distances of 225 routes; this compilation of various routes might have been some kind of traveller's guide.⁷⁰ A special form of such itineraries can be found in the *Tabula Peutingeriana*, probably an *itinerarium pictum*, which gives a graphic display of the known world with information about stages of journeys, distances and routes.⁷¹

In a different style, but still adhering to the same principle, epigraphic monuments visualise certain routes of a big territory, thus illustrating a large-scale opening up of the conquered territory. Although such monuments belong to the class of milestones, they nevertheless bear a special form of inscription, giving the exact distances, yet no precise place names. A milestone of the emperor Augustus from Cordoba gives a mile count from the river Baetis – at which

⁶⁵ Cf. JANNI 1984, 90–158; BRODERSEN 1995/2003, 54–65, 165–171, 191–194; HÄNGER 2001, 157–163.

⁶⁶ KOLB 2001; KOLB 2007.

⁶⁷ CIL X 6950 (p. 1019) (Forum Popillii): [P(ublius) Popilius C(ai) f(ilius) co(n)s(ul)] / viam feci ab Regio ad Capuam et / in ea via ponteis omnes miliarios / tabelariosque poseivei hinc sunt / Nouceriam meilia LI Capuam XXCIIII / Muranum LXXIIII Co-sentiam CXXIII Valentiam CLXXX ad Fretum ad / Statuam CCXXXI Regium CCXXXVII / Suma af Capua Regium meilia CCCXXI / et eidem praetor in / Sicilia fugiteivos Italicorum / con-quaesivei redideique / homines DCCCCXVII eidemque / primus feci ut de agro poplico / aratoribus cederent paastores / forum aedisque poplicas heic feci.; for the identification of the builder as P. Popilius Laenas (cos. 132) cf. the summary of CAMODECA 1997, 266, with note 18; cf. for the inscription SALWAY 2007, 190 f.

⁶⁸ Cf. the monuments mentioned above: the so called *Stadiasmus Lyciae* as well as the *Tabulae Dolabella* from Dalmatia. It is likely that such and similar documents were quite numerous in Roman times; cf. KOLB 2007, 178 f.; further KOLB (forthcoming).

⁶⁹ Most recently FUGMANN 1999, 14–15; SALWAY 2001, 33–39; SALWAY 2007, esp. 188–190, 205–209.

⁷⁰ Summarising FUGMANN 1999, 9–11 giving the essential literature; BRODERSEN 2003, 171, 185–186; HÄNGER 2001, 97, 101–103; SALWAY 2001, esp. 22–43; SALWAY 2007, esp. 182–188, 203–205.

⁷¹ FUGMANN 1999, 25–28 giving the essential literature; BRODERSEN 2003, 179–180, 186–189; HÄNGER 2001, 97, 103–107; SALWAY 2001, esp. 28–32, 43–47; SALWAY 2007, esp. 182–188, 203–205.



Fig. 7 – The Elogium from Polla.

banks stood the *Ianus Augusti* – to the Mediterranean Sea:⁷² ... *a Baete et Iano August(o) / ad Oceanum / LXIII*. The implicit representation of sovereignty is evident.

Another example is a road building monument, erected by Claudius in 46 AD at the border between Italy and the province *Raetia* in the form of a milestone, which defined the course of the *via Claudia Augusta*:⁷³ ... *viam Claudiam Augustam / quam Drusus pater Alpibus / bello patefactis derexserat(!) / munit a flumine Pado at(!) / flumen Danuvium per / m(ilia) p(assuum) CC[CL]*.

These inscriptions focus on the width and the extent of the territory opened up. On purpose, no specific places are mentioned, quite contrary to the inscriptions of other milestones. A limitation by rivers and even seas must have been far more impressive. This fact is also illustrated by milestones from the province of Arabia. On the one hand, they record the promotion to the status of province, on the other hand, they document the extent and the development of the provincial territory:⁷⁴ *Imp(erator) Caesar / divi Nervae f(ilius) Nerva / Traianus Aug(ustus) Germ(anicus) / Dacicus pont(ifex) max(imus) / trib(unicia) pot(estate) XVI imp(erator) VI / co(n)s(ul) VI p(ater) p(atriciae) redacta in / formam provinciae / Arabia viam novam / a finibus Syriae / usque ad mare Rubrum / aperuit et stravit p[er] C(aium) / Claudium Severum [m(ilia) p(assuum) ---]*.⁷⁵

⁷² CIL II 4701 = CIL II/7, 4 = ILS 102; cf. CIL 4703, 4707-4709, 4711-4712, 4715-4717.

⁷³ CIL V 8003 = CIL XVII 4, 1. Cf. the inscription from Cesio CIL V 8002 = ILS 208: *Ti(berius) Claudius Drusi f(ilius) / Caesar Aug(ustus) Germ(anicus) pontifex max(imus) trib(unicia) pot(estate) VI co(n)s(ul) IV imp(erator) XI p(ater) p(atriciae) / censor viam Claudiam / Augustam quam Drusus / pater Alpibus bello patefactis derex[er]at munit ab / Alitno usque ad flumen / Danuvium m(ilia) p(assuum) CCCL*.

⁷⁴ GRAF 1995, 261 = AE 1995, 1606 (Khirbet al-Kithara, Arabia) from 112 AD; at the end of the inscription the number of miles is missing, which is preserved in other exemplaries, AE 1897, 143; CIL III 14149,19; CIL III 14149,30.

⁷⁵ As another phenomenon of explicitly demonstrated perception of space, this inscription gives the neighbouring province as starting point; cf. milestones, which do not give particular places of destination but provinces, CIL VIII 10083 = 22073 (Sidi Bu Atila, Africa proconsularis): *Imp(erator) Cae-*

In the reign of Valentinian, Valens and Gratian, this form of representation of sovereignty was still used on milestones, giving not the exact starting point of Aquileia, but the Mediterranean Sea:⁷⁶ *[Fo]rtitudini dd(ominorum) nn(ostrorum) / [Fl(avi)] Valentiniani et / Fl(avi) Valentis et Fl(avio) Gratiano / invictissimorum princ(ipum) / constitutum / a mari via a Celeia / [m(ilia) p(assuum) ---].*

Although the inscriptions presented were – seen from a functional point of view – used as a marker of distance, they at the same time very much aimed at defining the space of the *Imperium Romanum* and demonstrating Roman rule to subjects and strangers.

The *Imperium Romanum* constitutes a unique historical formation, which in its territorial extent and in its longevity has evoked great admiration ever since. Despite its regional and cultural differentiation, this state – encompassing countless peoples amounting to fifty to eighty million inhabitants and spanning a territory on which today approximately 40 modern states can be found – held its ground close to a thousand years, from the very beginnings until the end of late antiquity. The extraordinary stability of this vast empire was due to its characteristic political, military and social structures as well as features primarily defined by Religion and Law, which constitute the Roman civilisation as such. Besides the will to rule and religious and cultural tolerance it was a very distinct pragmatism, which determined the political and administrative approach of the Romans and on which their immense assertiveness was based.

This pragmatically and systematically minded acting of the Romans is clearly recognisable in the design of the empire's transport infrastructure. In a first step, this system enabled the Romans to acquire and open up territory. Building on the already existing local system of ways, they took over, expanded or newly established roads in the deployment zone and in areas already conquered. In this way, recently obtained territory was systematically and consistently linked with the centre. In a further step following the establishment of peace, traffic connections were expanded and developed to serve the administrative penetration of the territory. This scheme was applied extensively, making use of the centrally coordinated structures of the monarchy, when decision making was pooled in the hands of the emperor and his staff. The transport infrastructure was a crucial instrument to obtain, consolidate and stabilise the power of the empire as it enabled transport and communication.

Thereby, a major characteristic was, wherever possible, the realisation of a consistently linear concept. This meant the establishment of a simple and straight link, which was able to overcome topographic obstacles with the help of elaborate constructional engineering. Thus the Romans have transferred their theoretical principle of a linear perception of space to the structural basics of their traffic system.⁷⁷ The practical execution of this concept in the country was not only a monumental display of paramount technical expertise and superiority, but also a demonstration of the encompassing Roman claim to power and the might of the *Imperium Romanum*.

s(ar) [[C(aius)] / [[Iulius Verus Max]]/[Iiminus Pius Felix]] / [[Aug(ustus) Germ(anicus) max(imus)] / [[Sarmat(icus) [max(imus) Daci]]]/[[cus max(imus) pontif(ex)]] / [[max(imus) trib(unicia) pot(estate) III imp(erator) V et]] / [[C(aius) Iulius Verus Maxi]]/[Imus nobil]lissimus / Caes(ar) princeps iuv/entut(is) Germ(anicus) max(imus) / Sarmat(icus) max(imus) Dacic(us) / max(imus) viam a Karthag(ine) / usque ad fines Numi/diae provinc(iae) longa / incuria corruptam / adq(ue) dilapsam resti/tuerunt / LXXXVI, and CIL XVII/2 654 = XIII 9082 = ILS 5832 (Offenburg, Germania superior): [Imp(erator) Vespasiano Caesare] / [Aug(usto) pontif(ice)

*max(imo) trib(unicia) pot(estate) V imp(eratore)] / [XIII p(atre) p(at-
riae) co(n)s(ule) V design(ato) VI] / [Imp(eratore) T(ito) Caesare Aug-
usti) f(ilio)] / [co(n)s(ule) III design(ato) IV] / Caesar[e Aug(usti)
f(ilio) Domitia]no / co(n)s(ule) [II design(ato) III] / Cn(aeo) Cor[nel-
lio Clemen]te leg(ato) [Aug(usti) pr(o) pr(aetore)] / iter de[irectum ab
Arge]ntorate / in R[haetia]m / A[rgentor]ate ---].*

⁷⁶ CIL III 5740 = XVII/4, 123 (Stranice, Noricum).

⁷⁷ Cf. the linear routing – unmindful of the oddities of the terrain – of the upper Limes in Upper Germany at a length of 81 km, ALFÖLDY 2004 with the history of research.

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