ROADS AND ROAD TRAVEL IN ROMAN DOMINIONS

to 180 A.D.

by

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Sed et mundus pacem habet per Romanos,
et nos sine timore in viis ambulanus
et navigamus quocunque voluerimus.

Irenaeus.

...... legiones, provincias, classis,
cuncta inter se conexa.

Tacitus.
INTRODUCTION

On the shield of Rome the milestone might well occupy a
quarter beside the eagle, the scales of justice and the olive branch.
From the year 312 B.C. when the blind Appius laid the first state road
beyond the city, until the fifth century of the new era, the Romans
had a full consciousness of their duty as an imperial power to provide
the world with adequate communications. A consciousness which, though
faintly felt by the ancient monarchs of Egypt and Persia, had never
before found room wherein to expand, and which, being smothered beneath
the barbarian tide which overwhelmed the Roman world did not revive
until the 18th century.

The original purpose of the majority of Rome's highways was
military. The flight of the eagles would have been of little avail had
it not been rapidly followed by substantial roads for the rapid movement
of the heavy Roman forces. It was by her roads that she held in check
in early times the savage peoples she had drawn within her bounds. By
them too she warded off the uncivilized hordes along the Rhine, Danube
and Euphrates and from her frontiers to the south of the African
provinces. By the postal service over those same roads a governor like
Pliny in the far distant province of Bithynia could profit by the advice
and information of the central government. Thus resulted the 'Pax Romana' of which the elder Pliny wrote: "the might of the Roman Empire has given unity to the world; all must agree that human life has benefitted, both in the general intercourse made possible and in the common enjoyment of the blessings of peace."

With the coming of this period of peace the widespread road system aided tremendously in the development of trade. The east could send its silks, carpets, glassware and paper to the newer lands of the west; they in turn shipped eastward their raw products such as lead, iron and hides. All tended to the betterment of life throughout the Roman world. The nations of the earth were never so interdependent as a result of these trade relations (before the 19th century) as at a time when Cicero could say: "The credit of the Roman money market is intimately bound up with the prosperity of Asia; a disaster cannot occur there without shaking our credit to the foundations."

The excellence of communications led to a free exchange not only of material products but also of the better things of life. We read of great university centers such as Athens or Marseilles which served the students of now peaceful Gaul and in Strabo's time could attract scholars even from Italy. Tarsus too had a great reputation, her scholars travelled to all parts of the world. Other professional

1 Pliny. N.H. XIV. 2
2 Strabo IV. 1.5
3 Id. XIV 5.13
men could engage in lengthly tours to the mutual advantage of themselves, and those they visited; e.g., Galen the eminent surgeon, and Aristides the rhetorician - both of the second century A.D. We hear too of Ptolemy, the great 'Apostle to the Gentiles' made full use of the improved Roman roads of Asia in his missionary tours; he realized too that all roads led to Rome and out again so that she was the logical center for the propagation of the Gospel.

In short the Roman roads fulfilled the functions of the modern highway, railroad, telephone and telegraph services and in doing so exerted such a powerful influence on the political, commercial and social life of the ancient world that a study of them is vital to an intelligent comprehension of Roman history.
CHAPTER I

THE CHIEF ROADS - ROUTES AND OCCASION OF CONSTRUCTION

The Romans constructed a road system which had a useful existence of approximately 1,000 years while many of the routes which they developed are followed exactly by the highways and railroads of the modern world. Let us glance for a moment at the guiding principles which led to the establishment of so permanent a result.

Immediately upon the subjugation of new territory roads were thrown out over it like a net. Thus we shall see that some of the roads of Italy were actually constructed by the conquering armies. Rome's aim in so doing was to consolidate her own power but also to keep the conquered communities severed from one another by fortresses and colonies closely linked up by good roads. The light grip won in this way was never shaken off.

In the eastern provinces at the time of Rome's conquests the well defined trade lines which the geography of the country demanded had already been followed for centuries so that Rome found little occasion
for the construction of new lines. But she speedily set to work to improve the surfaces of existing roads, in erecting milestones and constructing permanent bridges to permit of the rapid movement of Roman troops and the increased trade. In Gaul too the Roman engineer accepted largely the routes along the river valleys which nature and the experience of the earlier peoples had already shown to be practical. But it is interesting to note how the conquerors developed their system so as to make Lyons the effective military and political center both of the Gauls and the Germanicæ. At the time of their conquest the Britons had no extensive highways; it is only occasionally that we find the Roman roads laid out in such a manner as to suggest an original native course. But we do find long lines of almost un-deviating straightness laid down by the new comers to consolidate their conquests as they pushed toward the west and the north. Later ages have here put their stamp of approval on the Roman's choice of routes by following them in practically all cases.
The Roads of Italy

(A)

The state of roads in pre-Roman Italy is known to us only by conjecture. The peninsula was inhabited by peoples kept aloof by differences in race and by the natural barriers of the country. The earliest commerce was the sea borne traffic affecting Etruria and Latium and that from the scattered Greek colonies on the southern coasts. This did not require extensive highways. It is altogether probable that the later Via Salaria marks the way by which the salt from the Ostian marshes was carried inland, and that the southern portion of the Via Flaminia followed an ancient route leading to the market center at the foot of Soracte. But as yet there was lacking the unity and wealth necessary to develop any extensive system of first class highways.

The earliest of Rome's great roads and the one which universally maintained its proud title of 'Viarum Regina' was the Via Appia. Livy tells us that it was the blind Appius who commenced and finished it to Capua within his censorship (312 B.C.). Its practically undeviating course through its first sixty miles to Tarracina would further indicate the breaking of new ground under a single administration. Later extensions carried it to Beneventum, probably after that town received

1 Statius II 2. 12
a Roman colony in 268 B.C. and to Brundisium by way of Venusia and Tarentum in the course of the following century. But Strabo, travelling before 23 A.D., mentions as an alternative route between Brundisium and Beneventum, but fit as yet only for sumptuous beasts one following the Apulian coastline northwestward to Barium, then crossing the Apennines through Canusium and Herdonia. This was later rendered fit for carriages by Trajan and took on his name. It was this route which the Antonine Itinerary (early in the fourth century) regarded as the main course.

The Via Appia issued from Rome between the Aventine and Caelian hills through the Porta Capena, from which its distances were reckoned. Beyond the second milestone it was carried in a well-nigh straight line across the western shoulder of the Alban Mount, through the Latin plain and the Pontine Marshes to Tarracones on the coast, a distance of sixty-one miles. This road to the Alban Mountain must indeed have furnished an approach worthy the magnificence of the ancient city. Just without the gate it was spanned by three triumphal arches erected in honor of Drusus, the father of Claudius, Trajan, and Lucius Verus. Beyond these lay in close succession the sepulchral monuments whose ruins are so impressive today — those of Caecilia Metella, Servilius Quartus and Massala Corvinus. These were interspersed with imperial

1 Strabo VI 3. 7.
villas and temples. A steep grade carried it up the Alban Mount through Aricia, then to descent and pass through the 'Three Taverns' and Forum Apii. From here to Feronia the road was bordered by the famous 'Nineteen mile' canal through the Pontine Marshes. In Horace's day passengers regularly travelled on the mule drawn canal barges and to save time endeavored to time their journey so that they might sleep, or try to sleep, on the water. The headland of Tarracina was cut back 120 feet to give the road passage. From here it struck inland again, reached the coast at Formiae; thence through broken country it reached the sea once more at Sinuessa, only to turn inland across the marshy Campanian plain to Capua - distant 131 Roman miles from Rome. In its course thus for it gave service by five branch roads to such towns as Area, Antium, Setia, Teanum, and Puteoli. Statius gives us a grandiloquent account of the paving of a coast road between Sinuessa and Puteoli in the time of Domitian.

From Capua it proceeded on a tortuous course along the valley of the famous Caudine Forks to Beneventum, 163 miles from the Capital. Thence the original line traversed a wild and thinly populated territory, passing through Aeculanum and Venusia to Tarentum, 319, and on to Brundisium, 363 miles from Rome. The newer Via Trajana served a less rugged, more populous country and was 15 miles shorter.

1 Horace. Sat. I. 5.
2 Statius. Silvae IV. 3.
This same road was continued, probably by Trajan himself all around the Calabrian peninsula to Tarentum. The two main lines between Brundisium and Tarentum were connected by cross roads from Canusium to Venusia and from Barium to Tarenlund.

If the outgoing traveller had need to visit Rhegium he might do so by a road leaving the Via Appia at Capua, passing thro Nuceria and the wild mountainous country of Lucania and the Bruttii to Consentia and on to the coast at Rhegium - a distance of 321 miles. We should know nothing of the origin of this road were it not for an interesting inscription from a milestone discovered at Polla in Lucania. Upon it P. Popilius Laenas, consul 132 B.C., proudly tells that he had built the road, founded Forum Popilii and caused the herdsmen to give way to plowmen on the public lands - an early instance of bringing agricultural districts in closer touch with their markets.

The Via Appia probably carried the heaviest traffic of any line on the peninsula. Brundisium was the port that served the Via Egnatia and was thus the doorway to all the east. This was especially true in the winter months, when the longer sea routes were avoided. In its northern course it carried a tremendous traffic to the capital from the port of Puteoli alone where the Alexandrian grain ships and much of the sea trade from Africa and the east put in. This of course is in addition to the traffic arising from the rich agricultural districts and such pleasure resorts as Baiae and Neapolis which it served.
Another of Rome's early roads was the Via Latina, serving the Latin plain. Its origin is lost in the mists of antiquity for its course along the valley of the Tiberus and Liris was the natural channel through that rich country. Thus it was followed by both Pyrrhus and Hannibal in their marches on Rome.

Quilting the city along with the Via Appia through the Porta Capena it led practically a straight course to the Tusculan hills. The remains of bordering sepulchres and villas, as well as sections of the ancient pavement are still visible along this part. Keeping Tusculum on the left it passed through a depression between the Tusculan and Alban hills to the station ad Pictas, 33 miles from Rome. Here it was joined by the Via Labicana, which after leaving Rome by the Porta Esquilina swept to the north of the Tusculan hills. Due to the more level course it thus secured, it came in later times to displace the first section of the Via Latina. From ad Pictas the single road led on to Ferentinum and continued along the north side of the river Tiberus and finally fell in with the Via Appia at Casilinum on the Vulturnus, about 3 miles northwest of Capua and 128 miles from Rome.

In connection with the Via Latina we may also mention the Via Praenestina. This road issued by the Porta Esquilina and traversed a very broken country, past the ancient ruins of Gabii, to Praenestina, 23 miles from Rome. That these roads served a very rich district of Italy amply shown by the number of cities along their routes; e.g., Ferentinum,
Fregellae, Aquinum, Casinum, Calos and Teanum Sidicinum - in Strabo's time the largest town on the Via Latina. In this foothill country was produced the finest wine and oil that the Romans knew. From Gabii was quarried much of the stone that went into the buildings of Imperial Rome.

Three lines of road connected Rome directly with the Adriatic - threading the passes of the Apennines and serving the many small towns and villages of the hill people. Strabo tells us that the Sabine country especially was fertile in olive trees and wines and produced good cattle but it is probable that this central mountainous country on the whole produced little more than enough for its own needs.

The Via Salaria shares with the Via Latina the distinction of being the only Italian road of importance not bearing the name of its founder. In both cases this was due to the antiquity of the route for as we have already seen the Via Salaria was the ancient salt road leading into the Apennines. Leaving the city in company with the ViaMomentana through the Porta Collina it crossed the Anio by bridge 3 miles out and ran parallel to the Tibu for 18 miles to Eretum. From here it continued northeastward to Reate, 38 miles from Rome, then after crossing the ridge of the Apennines descended the valley of the Truentus to the sea at Castrum Truentum, 119 miles distant from Rome.

A second road, keeping much farther to the south was the Via Valeria, also of uncertain origin and date. Strabo describes

1 Strabo. V 3.11
it as 'commencing from Tibura and leading to the country of the Marsi and to Corfinium.' Thus it would appear to be an extension of an earlier Via Tiburtina. But an inscription informs us that Claudius continued the line from a point near the Fucine Lake to the sea. This was in 48-49 A.D. and the extension took the name of the Via Claudia Valeria. Leaving Rome by the Porta Esquilina it bridged the Anio after 4 miles and passed by the springs of Albula with their cold, health giving waters. It recrossed the Anio below the steep cataract at Tibur, only to return to the north side and continue along the valley to Carceoli. Thence it ran almost due west, skirting the northern shore of the Fucine Lake to Corfinium, 94 miles from the city. From here it found its course in the valley of the Aternum to Teate and Aternum on the coast, giving a total length of 127 miles.

The country between these two main roads was served by the Via Caecilia which branched from the Via Salaria between Rietum and Reate, passing through Amiternum to reach the Adriatic beyond Hadria. A solitary inscription discovered at Rome, gives us the name of this road while a milestone bearing the name of L. Caecilius Metellus, consul 117 B.C. gives us its date.

Finally, Claudius in 47 A.D. paved the Via Claudia Nova to serve as a connecting link between the Viae Salaria and Caecilia.

1 Orelli  711.
2 C.I.L. 9.  5953A.
3 C.I.L. 6.  3324.
Starting from Foruli, a Sabine village on the former line, it ran east 47 miles to join the latter at the confluence of the Aternus and Tirinus.

Next we pass to the 'Great North Road' of the Romans which joined their capital with the north of the peninsula as the Via Appia did to the south. The occasion of its building was also similar for it was constructed to consolidate the recent conquest of the Gallic tribes south of the Po, C. Flamininus, who had effected that conquest a few years before built the road in his censorship of 220. It continued to be of the utmost importance as a military line; e.g., in the Second Punic War and in the contests between the generals of Vespasian and Vitellius. As the principal means of communication between Rome and the Po valley it carried southward a great traffic from that most fertile district of grain fields, vineyards and stock farms. The fertile plain produced millet in tremendous quantities, also a great deal of wine - Strabo says their wine vats were larger than houses - while the acorn woods of the valley supplied Rome with most of her pork. Along the Via Flaminia passed the couriers bound for Illyria and the Danube Valley; even travellers from Spain employed it because of its good condition and easy grades. It is the stations along it which are given on the silver vases of Vicarello, carried by tourists from Gades.

1 Livy Spit. XX
2 Strabo V 1.12.
Because of its outstanding importance Augustus in B.C. 27 himself undertook its complete restoration: Vespasian improved it by the famous cut at Intercisa, Trajan by a bridge over the Metaurus, Hadrian by further repairs. Considerable portions of it, including many Roman bridges remain in use today.

Issuing through the Porta Fontinalis at the north-east corner of the Capitol it traversed the Campus Martius to reach the Tiber at the famous Pons Mulvius, three miles from the wall. Here it was that Cicero laid his trap for the Allobroges in 63 B.C. Hence it followed the general line of the Tiber for six miles to Saxa Ruba where it was joined by the Via Tiberina serving the Tiber valley farther to the north. The main road now proceeded almost due north, to the left of lofty Soracte and again crossed the Tiber a little above modern Borghetto. Like the Appian and Latin ways the Flaminian too was bordered for many miles with tombs and monuments — 'Quorum Flaminia tegitur cinis atque Latina' — running ever northward it crossed the Nervia, tributary to the Tiber by the famous bridge at Narnia whose ruins are still admired. — 56 miles from Rome. Hence it continued through Forum Flaminii, whose origin probably coincided with that of the road, through Nuceria, across the main ridge of the Apennines and down the valley of the Metaurus to the sea at Fenus Fortuneae. Hence it followed the coast for thirty-two miles to Ariminum, modern Rimini, having covered in all two hundred and ten miles

1 Sall. Cat. 45.
2 Jew. Sat. 1. 1. 171.
from the city. A loop road serving Intermanna and Spoletum left the main road at Narnia to rejoin it at Fulginae. Another branch road ran directly from Nuceria to the Adriatic at Ancona. The whole region which the main line traversed was exceedingly rugged and the towns along its route were supported more by the commerce carried by the road than by the fertility of their districts.

1 Cicero gives as the western means of communication with Cisaepine Gaul, corresponding with the Via Flaminia on the east, the Via Aurelia. It was built by one of the Aurelii Coltae some time in the second century B.C. It seems to have been little used - Strabo does not mention it. After crossing the Tiber by the Pons Aemelius it ran northwestward to reach the coast at Alsium about twenty miles north of Ostia. Thence it skirted closely the coast to Pisa, Genua and Vada Sabatia.

Rome's third means of communication with the north, and that which in Cicero's words 'Etruriam discriminat,' was the Via Cassia. Its builder and the occasion of its construction are quite unknown. Branching off from the Via Flaminia immediately north of the Pons Mulvius it proceeded northwest past the ruins of ancient Veii, thro Forum Cassii, skirting Lake Volsiniensis, thence due north to Clusium, lying west of fatal Thrasymera, past Cortona and through Arritium -
One hundred and thirty-eight miles from Rome. Livy mentions that from this point a highway was built to Bononia by C. Flaminius in 187 B.C. but we have no further record of such a road, although it is surprising if such a convenient route to Cisaepine Gaul was not employed. Caesar, in 49 B.C. probably sent a force under Antony along it to Arretium. From Arretium it dropped into the Arno valley, proceeded down to Florentia, thence to Luca and on to join the Via Aurelia at Forum Clodii giving the Via Cassia a total length of about two hundred and sixty miles.

We may regard the Via Clodia as a branch line of the true Via Cassia. We are ignorant of the circumstances of its building and there is much confusion even regarding its name and northern route. After parting from the Via Cassia ten miles north of Rome it ran in a northwest direction to meet the Via Aurelia some One hundred and twenty miles north of the Tiber mouth.

The Via Aemilia was one of the earliest distinctly Roman highways in the Peninsula. Livy tells us how M.Aemelius Lepidus, consul 187 B.C., after subduing the Ligurians of the Po region, employed his victorious army to construct this road from Placentia to Ariminum. This became so famous a highway that even in Martial's time it had given its name to the district it served. By a system of branch roads it communicated with the whole of the Cisaepine region to the north. The main road, from Placentia to Ariminum, traversing One hundred and

1 Livy, XXXIX, 2
2 Livy, XXXIX, 2
3 Mart. VI, 35.6.
Eighty miles of fertile plain in an almost undeviating line, passed through the extensive towns of Parma, Mutina and Bononia.

1 Strabo also tells us that Bononia was joined to Aquileia by a man of at least the same name, probably during a second consulship in 175 B.C. In 148 B.C. the Via Postumia was built from Aquilei through Verona, Cremona and Placentia to Dertona and possibly to the sea at Genua although the line between the last two towns is commonly credited to an Aemilius Scaurus (109 B.C.). The Via Flaminia was continued from Ariminum along the coast, across the mouth of the Po to Aquileia by 3 P. Popillius Laenas (132 B.C.), the same who built the road from Capua to Rhegium. As a result he has left his name on these two roads at opposite extremities of Italy.

1 Strabo, V. I ll.
2 C.R.L. 5, 3045.
3 C.R.L. 1, 550.
The southern coast of Gaul was early brought into land communication with Italy. Immediately after his subjugation of the Allobroges in 121 B.C. Gnaeus Domitius Ahenobarbus had constructed from Arelate at the mouth of the Rhone to the boundary of Spain and Emporium, the road which was to commemorate his name. Doubtless there was already in use a coast road from Arelate eastward but we know that Augustus in 13-12 B.C. paved it as the Via Julia Augusta. This continued along the narrow coastal plain to join the Via Aurelia at Gemua. He and succeeding Emperors also repaired the old Via Domitia. This land route was heavily travelled not only by the through traffic to Spain but also in preference to the sea voyage to the Rhone mouth - rendered dangerous by coastal rocks and shallows and treacherous winds. But Strabo also mentions as a common alternative route the Via Gottia. This was constructed in 3 B.C. and ran from Nemausus to Brigantium through the Cottian Alps by the Mount Genevre Pass to Augusta Taurinorum, thence down the Po valley to Ariminum and the Via Flaminia. Hannibal had traversed this pass in the depths of winter.

1 C.I.L. 12. 5454, 5455.
2 Strabo IV. 6. 12.
After his uncle's conquest of the rest of Gaul it remained for Augustus and his minister Agrippa to organize its communications. Lugdunum (Lyons) on the Rhone was to be the political, religious and road center of the three provinces. As such it was excellently situated for the great river valleys of France seem to concentrate at this point. Consequently Lugdunum served as the hub for a wheel-like road system with four principal spokes. The first followed the left bank of the Rhone southward through Vienna to Arelate; the second ran almost due west to Augustoritum, thence southwest to the harbor of Burdigala; another, following the Arar and Sequana valleys terminated in Gesoriacum (Boulogne) the leading channel port; a fourth ran due north along the Mosella valley through Augusta Treverorum to the Rhine line at Colonia Agrippinea. These probably all followed long used natural routes. It remained for succeeding emperors to fill in the system. Claudius was especially active, particularly after his conquest of Britain and visit to Gaul. Many roads bear his milestones. Provincial districts soon proved able and willing to help themselves so that finally a very complete system was evolved with many local centers as is evident from a glance at a map of Roman Gaul.

Communications through the Alps had been very difficult in early times not only because of the tremendous natural difficulties but also on account of the savage tribes of natives. By his campaigns of 25 and 15 B.C. Augustus finally subdued these - the famous commemorative cairn at Monaco bore the names of forty-six conquered tribes.
Strabo speaks gratefully of the resulting safety from brigandage and of the extensive lines of improved highways - though in many places they remained extremely steep and narrow, running along the verge of dizzy cliffs and subject to all the perils of snow and land slides.

We have already noticed the new road constructed through the Cottian Alps. It was employed by the Vitellian general Valens in 69 A.D. Another road was paved from Augusta Praetoria through the Graian Alps by the Little St. Bernard to Vienna on the Rhone and thence to Lugdunum. A third crossed the Pennine Alps through the Great St. Bernard from Augusta Praetoria to Vesontio. This too was probably laid by Augustus. Caecina, Vitellius second general in 69 A.D. found it a 'proprius transitus' from Upper Germany to Cisalpine Gaul.

The trade of Gaul was very considerable. The Romans had hoped to find great mineral resources in this region but were somewhat disappointed. The gold and silver, though once, especially in the Alps, very abundant, had been largely exhausted. But iron was common and became the principal metal of commerce. Its distribution was widespread and considerable manufacturing was carried on under well organized guilds, especially at Lugdunum, Narbo and among the Aedui. Extensive deposits of excellent potters' clay were discovered to the west of the Rhone in the country of the Arverni and Ruteni so that, while at the time

2. Tac. M.I. 61
3. Id. ib. 62
of the conquest Italian Arretine ware was being imported, before the
close of the first century A.D. the Gauls had successfully imitated
this same brand and were exporting it to all parts. - Britain, Africa
and even Italy herself. But agriculture was the basic industry of the
province. Wine and oil and cheese were exported from the southern parts;
grain, pork, wool and woollen goods from the colder north. The hams of
the Sequani were famous. Because of the natural riches of the country
it soon possessed a large class of wealthy citizens who were responsible
for an extensive import trade of the luxuries of the East - silks, carpets,
paper and jewelry. Much of the trade both to and from Britain also
passed through Gaul - thus British lead followed the Seine and Rhine
route. So it was that even by Tacitus' day the roads of the province
were humming with traffic: "strepentibus ab utroque mari itineribus."
Spain

The Spanish peninsula was very adequately supplied with water communications. Not only were there numerous good harbors on all the coasts, especially the west, but the great rivers, the Durius (Deuro), Tagus (Tajo), Anas (Guadi Ana), and Baelis (Guadalquivir) on the west, the Sucro (Jucar) and the Hiberus (Ebro) on the east carried ancient shipping far inland. Thus on the Baeztis Hispalis was reached by ocean vessels. On the west coast there were also many creeks and tidal estuaries in sunken valleys, which served rich farming districts. Communication with Italy too was largely by sea from the ports of Tarraco, Carthage Nova and Gades. But notwithstanding, the Romans found it necessary to supplement all this with an extensive road system.

The Carthaginians had exploited considerably the mining districts in the east but we do not know how far their roads stretched. Neither have we any definite information of the road building of Republican Rome. 

\[\text{1 Polyb. III. 39.}\]

The Via Domitia as early as the time of Polybius (203-121 B.C.) had extended along the coast from the east as far as Emporiae. A well used track probably extended far down the Spanish coast as well. But it remained for Augustus to put the communications of the province in good shape and this eastern road, the principal one of the peninsula, afterwards...
bore his name as a result of his paving it. As a continuation of the Via Domitia it followed the coast to Barcino and Tarraco - the leading city of the northern coast. Thence it passed on along the sea through Valentia to Carthage Nova - the most important city of Tarracoconsensis - it furnished an outlet for the rich mineral district behind it and was the center of a great fishing industry. Thence, skirting the Plain of Rushes the way passed westward through Castulo and Obulco to Corduba on the Baetis, down the Baetis valley to Hispal and south to Gades - the first Roman colony in western Spain. Succeeding Emperors up to the time of Nero worked toward the completion of this line. From Vespasian on repairs were constantly being made - this indicating a large volume of traffic.

Augustus also was energetic in the complete subjugation of the tribes in the northwest of the peninsula. In order to consolidate this conquest and doubtless to serve the mining industry which soon opened up in those parts, he put in order another line of road. Leaving the coast at Tarraco it passed through Ilerda; thence up the valley of the Hiberus to Calagurris, westward to the station of Legio VII then south through Asturica to Bracara and the mouth of the Duris - the modern O'Porto. A road built under Tiberius from Asturica south through Salmantica and Emerita on the Anas to Hispal, completed the circuit of the country. Many short lines constructed by the same Emperor in the northwest point to great industrial activity in that region. It was probably Vespasian who commenced a cross country road running from Emerita up the Tagus valley, across to Toletum and Bilbilis to Caesaraugusta on the Hiberus.
Strabo's chapter on this rich province reads like a description of an Arabian Night's valley of jewels. Gold was found in the sands of the Tagus and in rich veins in all the western mountains, silver especially in the hills behind Carthago Nova but also in the northwest where there was a 'Silver Mountain.' Spanish lead was the finest obtainable and was mined in the north at Baebelo and also around Carthago Nova. Copper and iron too were exported. A great volume of surplus agricultural products found a convenient market in Rome. Spanish oil had a high name, the flax produced around Tarraeo was the very finest, well bred flocks were kept and Spanish woollen goods were far famed.
In the absence of any contemporary historical record of the construction of the various British roads and because of the scantiness of epigraphical remains (only some three milestones of Hadrian's reign have been discovered), the question of origin and nomenclature is obscure. The date of building of the different roads may be but roughly determined by a consideration of the order of conquest and by studying the remains in adjacent sites.

We may suppose that very early in the Claudian conquest the road from Portus Dubris (Dover) and Rutupiae (Richborough), to Londinium was opened for the conveyance of military supplies. As the southern counties were overrun they would be consolidated by the highway from Londinium to Calleva (Silchester) and thence to Poole Harbor on the south coast in Glevum (Gloucester) was established about 50 A.D. and was probably soon after linked up by road to Calleva and Londinium. The roads through Wales would be pushed on by successive stages following the invasions of Ostorius (51 and 52 A.D.) and of Frontinus (76 A.D.). Caninlodonum (Colchester) was taken about 44 A.D. and must soon have been provided with communications with Londinium. Viroconium (Wroxeter) was founded about 50 A.D. as an outpost against the Silures and Watling
Street was probably built directly to this station soon after. Ten years later Suetonius used Deva (Chester) as a base of operations against Mona so that Watling Street had probably been carried thus far north by then. Lindum (Lincoln) doubtless had communication with Londinium by the time of Agricola while the lines to the north followed upon the subjugation of the country of the Brigantes by Cerialis (70 A.D.) and Agricola (79-84 A.D.).

We cannot be certain of the Latin names of any of the principal roads of the island. They are designated merely by numbers on the Antonine Itinerary. The first historical mention of a Roman road after Roman times is in the Treaty of Wedmore (878), which names Watling Street. The main highways are given in the laws of William the Conqueror and Edward the Confessor as Watling, Hikenild, and Earning Streets and the Fosse Way.

The long line of Watling Street gave access to the very heart of the province from the southeast tip and Gaul. On the Gaulish coast Gesoriacum (Boulogne) was the usual port of departure. On the British side there were three corresponding harbors: Portus Lennis (Lymne), Dubis and Ritupis - the last named being the most sought for. Roads from these three towns converged at Durovernun (Canterbury). Hence a single line followed a straight course across the Medway to the Thames at Westminster. Here the broad tidal flats were reclaimed and the river bridged. Londinium also had communication with the south coast by what is now known as Sussex Stane Street, running southwestward through the downs to Regnum (Chichester).
Beyond the Thames Watling Street pursued a straight course to Brockley Hill - remains of a well paved road about twenty-four feet wide have been discovered beneath the modern Edgware road. Continuing northwestward it kept for the most part to high ground through Verulamium (St. Albans), across Fosse Way at Venonae (High Cross), through Ectocetum (Wall) to Viroconium (Wroxeter). From here an extension ran due north to Deva (Chester) a distance of fifty-three miles. The Antonine Itinerary gives the distance from Dubris to Veroconium as two hundred and twenty Roman miles.

From Deva it continued northward to Isurium (Aldborough), and Corstopilum (Corbridge) and across the line of Hadrian's Wall. Warburton, writing in 1717, describes the remains of a section near here as a ridge for the most part two yards high, fully eight yards broad and all paved with stone that was as even if newly laid. The remains of the ancient bridge across the Tyne were removed in the construction of the modern work. A good highway was pushed on to the eastern extremity of Antonines Wall and even to the military outposts beyond it. The total distance from Deva to Antonine's Wall and even to the military outposts beyond it. The total distance from Deva to Antonine's Wall was about two hundred and fifty miles.

The Roman predecessor of the Great North Road was the so called Erming Street. From Londinium it proceeded in almost a straight line due north to modern Braughing - about thirty miles. From here an important branch ran east to Camulodunum - the Stane Street. Continuing northwestward it avoided the fen country between the rivers Cam and Ouse and
and crossed the Heyne at Castor to reach Lindum - doubtless its original terminus. Later it was pushed on to Eburacum (York) by a route which inclined westward to avoid the wide tidal Humber. The distance between Londinium and Eburacum by way of Ermling Street was roughly Two Hundred and Twenty-two miles.

The Fosse Way cuts across the province from southwest to northeast as Watling Street did from southeast to northwest. It ran for about One Hundred and Eighty miles in a remarkably direct line between Lindum and the modern Ilchester, no part of it being more than six miles from a straight line joining these two points. Both in Roman and modern times there have been very few settlements upon it and today very little of its course is followed by import and highways. Neither do remains indicate any extensive fortifications along its course. It is however laid out in the typical Roman fashion, with long straight sections between definite land marks. It was probably designed as a means for the rapid movement of troops when the Severn and the Trent formed the northwest boundary of the province.

Running southwest from Lindum it passed through Ratae (Leicester) after Fifty-one miles and continuing out Watling Street at Venonae. Thence it passed through Aquae Sulis (Bath) to the modern village of Ilchester. Its course from here is certain as far south as the modern Axminster where it apparently fell in with the Isca-Londinium road. The length from Venonae southward appears in no Itinerary and probably served a farming district then as now.
The Londinium-Isca line kept north of the Thames as far west as Pontes (Staines) where it crossed and pushed on southwest to Calleva. Hence it served the towns of Sorbiodunum (Old Sarum) and Durnonovaria (Dorchester) and continued to Isca Dumuniorum (Exeter). From Calleva two other roads to the far west branched off, one passing through Aqua Sulis, across the Severn to Isca (Caerleon) the other keeping north to serve Glevum (Gloucester).

Thus by the close of the first century of our era Britain was provided with an adequate road system - very definitely centered in Londinium, serving especially the towns and rich agricultural districts south of the Deva-Lindum line but affording rapid communication with the less developed and still troublesome north. The general recognition of its effectiveness is well illustrated by the admission of an Englishman, Defoe, writing in 1724: 'It is more than probable that our posterity may see the roads all over England restored in their time to such perfection that travelling and carriage of goods will be much more easy both to man and to horse than ever it was since the Romans lost this island.' His prophecy was fulfilled only one hundred years later.

A lively trade was opened up with the extension of roads. By the second century 'hundreds of private people were crossing over to Britain' doubtless for the most part traders. They carried over finer articles of pottery and metalware. Even in Strabo's time the island

1 Travel in England in the Seventeenth Century by Joan Parkes, page 28.
3 Strabo IV. 5. 2.
was exporting corn, cattle, iron and skins. At a later time woollens were manufactured for export. The British tin had been eagerly sought for by the earliest traders but was mostly readily available by sea. The most important export was lead - mined near Wroxeter, the Mendips and Tamworth.
The roads along the Rhine and Danube of the legions between the strategic points along that extended and difficult line of defense, rather than in the interests of trade. Strabo gives a vivid picture of the nomadic, indigent savages inhabiting the greater part of the hinterlands. The ancient amber from the Baltic down the Vistula valley was still of some importance and after Trajan's conquest of Dacia a considerable traffic developed between that province and Italy. But even this was carried largely on the navigable rivers, the Danube, Drave and Save. The Danube line was also followed to some extent by the Imperial Post from Italy to Macedonia and Asia.

Drusus, the step son of Augustus, was the first seriously to open up the Rhine route. After his campaigns there he had established some fifty forts along the river and must have joined them by a serviceable military road. He also built a line between Colonia Agrippinensis and the channel port of Gesoriacum. To provide rapid communication with Italy, after his conquests in the eastern Alps in 15 B.C. he had commenced a new road running from Verona through the Athesis valley to Augusta Vindelicorum - this was completed by his son Claudius. By this time

1 Strabo VII
2 C.I.L. 5, 3002, 3003.
there was also a road from Mediolanum over the Splugen Pass and the Tyrol to the same town the center of the new territory and thence to Aquileia, a town at the mid point of the Lines. Trajan expended a great deal of care on the northern frontier. He thoroughly overhauled the existing lines along the Rhine and by the close of his reign the roads extended from Noviomagus Batavorum near the Rhine delta, southward to a point about fifty miles above Moguntiacum, thence eastward to meet the Lines Trans-danubianum along it to the Danube and out to the Black Sea at Tomi, resulting in the "iter per feras gentes a Pontico mari in Galliam."

Already by Strabo's time the Danube route had been opened from Aquileia. From there the way lay across the Julian Alps by the Opra Pass to Neaportus and Rhona. Here it divided; the northern branch running through Poetovio to Carnuntum on the Danube - the center of whatever traffic there was with the Germans beyond; the other passed down the Save valley to Viminacium on the Danube. Thence it followed the valley of the Margus (Morava) to Naissus, whence one branch led to Byzantium, the other to Thessalonica.

Under Vespasian the Agri Decumates in the angle of the Rhine and Danube were definitely occupied and the great Lines begun. Under the same Emperor this district was furnished with a road running through its midst from Argentoratum on the Rhine to Arae Flaviae.

1 C.I.L. 13. 9082.
4 Strabo VII. 5. 2.
Macedonia and Achaia

The link connecting the road systems of Italy and of the Roman 'far east' was the Via Egnatia, traversing Illyria, Macedonia and Thrace. There is no certainty as to the founder or date of founding of this highway. The western section extending to Thessalonica was well established in the time of Polybius; i.e., about 150 B.C. Strabo speaks of this section as the Candavian way. Leaving the Adriatic at Dyrrhachium it threaded the Candavian mountains and passed through Heraclea to Pella-Philip's ancient seat - thence to Thessalonica, in Strabo's day the greatest city of Macedonia - having covered a distance of Two Hundred and sixty-seven Roman miles. A branch from Apollonia joined the main road from Dyrrhachium at Clodiana - practically equidistant from both coast towns. From Thessalonica it followed the coast northeast through Amphipolis and Philippi to Byzantium. Branch roads from the main highway joined it to the ancient road systems of Greece.

These deserve but brief mention. After the Roman occupation and during our period there was little trade through the province of Achaia save by sea. Our definite information indicates only that Hadrian improved the ancient lines between Thessalonica and Athens and between Athens and Corinth.

1 Polyb. XXXIV II.
2 Strabo VII. 7.4.
3 Pausanias, I, 36.3, 44.6.
The peninsula of Asia Minor, richly endowed by nature, has moreover always been the stepping stone from the far east to the Aegean world so that from the earliest times the natural lines of communication had been sought out and were well gravelled. The most famous of these was followed by the 'Royal Road' of the Persians which as early as the fifth century was well maintained and provided with good stopping places at regular intervals. From what we can make of Herodotus' vague account it kept to the north - running from Sardes to Anyra, across the Halys to the religious center of Comana, southward to Melitene, near the Euphrates, across it and down the north bank of the Tigris to Susa. Herodotus also mentions a cross-country route, apparently well known, from Sinope on the Euxine to Tarsus. By the time of Xenophon the principal east and west route had probably changed - now keeping farther to the south. This route became especially important after the conquests of Alexander and during the Seleucid period. Starting from Ephesus, which had now become the leading city of the coast, it followed the valley of the Maeander to Laodicea, pushed northward to Antioch, then turned southward through Iconium to skirt the great salt desert of

1 Herod. V. 52
2 Id. I 72
Lycaonia to Tyana, thence through the famous Cilician Gates to Tarsus. From here it was possible to follow the coast route to Antioch on the Orontes or cross the mountains to the Euphrates passage at Zeugma.

The Romans accepted and improved these lines and made additions—generally to facilitate their military occupation. After his subjugation of Pisidia and Isauria Augustus established colonies and garrisons in that district and linked them up with roads to one another and to the southern ports. When Rome began to play a bolder hand on the eastern frontier under the Flavians, strong garrisons were established at Satala and Melitene and a road was built between them by Vespasian. Rome now too held the crossings at Samosata and Zeugma so that she could control the whole Euphrates line. Domitian repaired the roads of all Asia and they were well maintained by the succeeding Emperors, especially Hadrian.

After the reorganization of Galatia and Cappadocia under Vespasian in 74 A.D. a new route was opened through those provinces—one which was commonly followed by Imperial couriers thereafter. From the Bosporus at Byzantium it passed through Nicomedia and continued southeast to Ancyra—a great center of local roads. Thence it bent more to the south, to cross the barren country east of Lake Tatta and join the old line at Tyana. This, in conjunction with the Danube line, provided for the winter season, an all land communication between Italy, Syria and Egypt.

A great deal of trade passed along these routes, for Asia was a very productive province; in Cicero's day the only one which yielded
a net revenue to the Roman treasury. By Strabo's time the gold and silver mines were practically exhausted but iron was still found in abundance in Cappadocia. The marble from Synnada in Phrygia was quarried in huge blocks, transported by land to Ephesus and thence shipped to Rome where it was highly favored. Mica of good quality was mined in Cappadocia, the best red lead known came from about Ephesus. In addition to this mineral wealth, a good deal of shipbuilding timber came from the regions bordering on the Euxine and also from Cilicia. Finally many of its districts produced wine and oil of such a quality as to find a world market and such fruits as cherries, apples and prunes which were dried and preserved and shipped to all parts of the Empire.
The position of the traffic lanes through this rugged province were definitely determined by its geography and they had been followed from the beginning of history by the armies and caravans from Egypt northward and from Mesopotamia westward. The Romans for the most part only improved existing lines.

A coast road led from Pelusium on the Nile Delta to Seleucia at the mouth of the Orontes, linking up the great harbors of Gaza, Caesarea, Tyre and Sidon. From Gaza a desert road branched off running directly to Jerusalem. A more important trade route left the coast road at Caesarea, passed eastward through Esdraelon, the valleys of the Upper Jordan, the Lita and Orontes to Heliopolis, Apamea and Antioch. From the upper Jordan a branch road ran eastward to the great trading center of Damascus. Important roads led both from this city and from Antioch eastward to Palmyra and its rich oasis, whither came the caravans from Aila on the Ailonic Gulf through Petra, east of the Jordan to Philadelphia and Damascus. From the time of Tiberius military considerations had required the development of the northern routes especially.

The conquest of the new province of Arabia Petraea under Trajan had led to the growth of a thriving Hellenistic civilization to
the east and the south of the Jordan and to the founding of many new towns, chief of which was Bostra. Splendidly paved roads were constructed joining these, and such important routes as that from Damascus to Palmyra were protected from Arab plunderers by lines of fortresses.
Egypt

This province never required any elaborate road system. Its whole narrow length was adequately served by the navigable Nile while the densely populated and highly industrialized Delta was further served by cross canals joining the river branches. The easternmost branch also had water communications with the northern extremity of the Red Sea by the famous Amnis Augustus, constructed originally by the Pharaohs and restored by Augustus and Trajan.

But navigation in the shallow waters of the Gulf of Suez was always difficult so from the earliest times we find this channel supplemented by roadways linking up the southern Nile with the Red Sea. The earliest of these, probably never more than a caravan track joined Berenice on the Sea with Coptos on the Nile. But this necessitated a dangerous eleven days journey – hence in later times the new route was opened from Coptos to Myoshormos, a seven days journey. On its course extensive granite and porphyry quarries were developed at the Mons Claudianus under the Emperor Claudius. This became a busy thoroughfare and was consequently provided with water reservoirs and stopping places. Under Hadrian still a third route was opened – running northward from Myoshormos and parallel to the coast to a point fifty miles north of Antinoe on the Nile and thence running westward to that town. This too
was well equipped with water cisterns and posts of armed guards. It is
doubtful if these two latter routes were ever metalled since the traffic
over them was borne chiefly by camel trains.

1 According to Strabo a wagon road served the Nile valley where
the Cataracts hindered navigation - as between Syene and Philae. We
are not here concerned with the caravan routes leading westward to the
Temple of Ammon or the Theban Oasis, which had existed from time
immemorial.

1 Strabo XVII 1.50
We know little of Republican road building in Africa. Carthage was probably connected by coast roads with Hippo Regius on the west, Hadrumetum to the east and with Sicca on the Bagradas. No milestones of Augustus' have survived but we may be sure that the road system was extended in his time; e.g., to the marble quarries of Simitthus and to the legionary camp at Théveste. This town became the hub for the roads of the province proper and Numidia. Early in the reign of Tiberius the legion had built a new road to Tacape on the lesser Syriris and under Vespasian a third line was run north to the coast at Hippo Regius. Vespasian effected considerable repairs on the existing roads. Trajan moved the legionary camp westward to Lambaesis and connected the new quarters with the old by road. Lambaesis later was given communication with the sea at Rusicade by a road through Cirta. A line of unknown origin pushed westward from Cirta and Sitifis between the two parallel ranges of mountains, through Mauretania to Tingis - whence a ferry ran to Baelo in Baetica. The coastal towns of Mauretania were adequately served by sea traffic. On the east the road from Carthage to Hadrumetum continued through Tacape and followed the coast to Cyrenaica and finally Egypt. Hadrian repaired this line extensively. In addition to the building done by the Emperors and their legions we find that in Africa

1 Strabo. IV. 5.2
2 C.I.L. 8. 10018, 10023
3 C.I.L. 8. 10119
4 C.I.L. 8. 10136, 10210.
the native municipalities and private citizens were especially active in providing for their own interests.

This was a very productive land. When Egypt was taken over she and Africa each supplied one third of Rome's grain supply. She also exported horses and cattle, woolen and leather goods, slaves and purple dyes. The remains of the many splendid towns attest the ancient productiveness of the cultivated areas.

(K)

Sicily

The chief towns of the island have always been situated on the coast and as the interior is extremely rugged and in Roman times largely given over to grazing there was little need of an elaborate road system. Strabo speaks of a Via Valeria running from Messana along the north coast to Lilybaeum. In his day the south coast was quite abandoned. The populous east coast probably had a good coastal road and there seems to have been a cross country line from Catana on the east to Agrigentum on the south coast. Friedlander estimates a total of one thousand miles of road in the island in Imperial times.

1 C.I.L. 8. 10296, 22397.
2 Strabo, VI. 2.1.
3 Fried. I page. 277.
CHAPTER II

CONSTRUCTION OF ROADS AND BRIDGES

The Roman engineer designed his highway with the intention that it should render service for a long period with a minimum of repairs. Thus his construction may often appear excessively massive to a modern who reckons the duration of his roads in terms of years rather than generations. As evidence for the Roman's success in his striving for permanence we need only look at the still intact streets of Pompeii with ruts cut inches deep in the solid stone, or at the stretches of pavement yet remaining on the moors of England which must have seen three hundred years of constant service during the Roman occupation.

We find little information on the actual process of construction among ancient writers: Vitruvius has described the laying of mosaic pavements which required much the same substructure as the Roman road. It is his terminology that has been used in later times in dealing with road construction. The poet Statius (C.45-96 A.D.) has left us a poet's picture of the building of the Via Domitiana from Sinuessa to Puteoli. Beyond this we must depend chiefly on studies of existing remains.

1 Vitru. VII. 1
2 Statius. Silvae, IV. 3.
Where the Romans constructed their roads through new territory they laid them out with a skilful regard for the general topography of the region. This is evident in England where the railways have followed largely the course of the Roman roads. The name of the surveyor (Agrimensor) is a common one in Latin inscriptions and we may be assured that their science was well developed. One of the striking features of practically all Roman roads is their directness - a feature especially noticeable in an open country like the south of England where there are remains of stretches of twenty-five or thirty miles of road not deviating more than a quarter or half-a-mile from an absolutely straight line. But this country also furnishes proof that straightness was occasionally sacrificed to attain better grades; e.g., in hilly parts, or valleys with steep sides. In level stretches the right-of-way was probably laid out from one end with the help of a smoke signal. But the Roman engineers seem to have been aware of a method well known to modern surveyors of laying out a straight line between two points not visible from each other; viz., by shifting two or more intermediate points which are visible from the extremities until all are brought into line. There are a number of instances in England where there is a slight aberration from the straight line at high points where outstanding landmarks had been aimed at from both sides.

Occasionally serious natural difficulties were overcome by considerable engineering feats. The road from Nepolis to Puteoli passed through a high ridge west of the former town by a tunnel 2,240 feet long.
and 24 feet wide: the famous Crypta Neapolitana which Seneca described. The Via Appia was carried directly across the deep, crater-like basin (Vallis Aricina) which lay beneath the ancient town of Aricia. To ease the grade massive substructures of masonry were built and remain well preserved to this day. The Via Flaminia in its northern course followed the valley of the Cantiano, a tributary of the Mataurus. At one point the pass was so narrow that the roadway had to be hewn from the wall of the cliff and a tunnel driven through one hundred and six feet of solid rock. This work was done by Vespasian in 75 A.D. when the place took the name 'Intercisa.' It has been much admired both in ancient and modern times and still serves the present road from Rome to Fano.

Three types of road are distinguished in the law-books: the levelled 'dirt' road (via terrena), the gravelled (via glareata) and the paved (via munita or strata - whence our 'street'). The first two classes served as lesser cross roads while the third formed the bulk of the principal highways both of Italy and the provinces.

The Roman engineer was well aware of the necessity of drainage for any type of road - a principle which was afterwards neglected until the last century. Ditches may be traced along both sides of many of the ancient roads in England - the excavated material apparently was used to build up the central grade. Statius in describing the construction of the Via Donutiana mentions the drainage of the swampy ground along its course as one of the great tasks of the engineers. A whole army of workmen was engaged on this alone.

1 Seneca Ep. 57.
That the unmetalled dirt roads were frequently in terrible condition is evident from this same passage of Statius. A distance which could be covered in two hours on the new paved road had required a journey of a whole day before. Seneca in the letter quoted above speaks of a certain passage by land as little different from one by sea.

Remains of gravelled roads are commonly found in the Rhine valley and throughout England. These vary greatly in width: a section of the Fosse Way at Radstock is only six or seven feet wide, another at Jasiments Bottom six to seven yards. The foundation for the gravel consists usually of a loose layer of coarser rock. On top of this was built up a bank of gravel often of surprising height. A striking instance of such is the embankment of Atchling Ditch to the southwest of Salisbury which runs for four miles across the high open down, a uniform bank five yards across the top and five to six feet high. It is especially surprising to find such construction on solid, even rocky soil, as for example between Doncaster and Pontefract where the ridge sometimes reaches a height of eight feet. In many cases ridges of a similar height have been reduced by modern builders in search of material.

We now pass to a consideration of the more elaborately constructed paved roads. In the first place a shallow excavation was made of the width of the required roadway. This varied considerably according to the traffic to be carried. The main lines of the Via Appia, Flaminia, Valeria varied from thirteen to fifteen feet – permitting the passage of two Roman wagons. The Via Tusculana was eleven feet
wide, the road leading up the Alban Mount to the temple of Jupiter Latialis, but eight feet. Many of the highways through the Alps were of about this width — where in many cases construction was extremely difficult. On the other hand many of the roads of Britain, constructed at a later period compare favorably in width with our best modern highways. Existing remains of substantial gravel and paved surfaces in that province vary in width from ten to twenty-four feet showing an average width of possibly fifteen feet.

In swampy ground recourse was had to piling for a foundation. An interesting example of such construction has been discovered in a section of Roman road unearthed between Rochester and London in 1897. The piles were of oak about four feet in length and supported cross sills which carried the road metal: a thickness of five feet of alternate layers of chalk, gravel and broken rock under a stone paving. Where the subsoil proved reasonably firm a first layer (statumen) of loose stones of a size that could be grasped in the hand was laid. Above this came the rubble work (rudus) of broken stone cemented with lime and rammed down to a thickness of nine inches. Where the road passed over surface rock, as in the case of the Via Appia south of the modern Albano, these first two layers might be dispensed with. Over this was laid a six inch layer (nucleus) of finer concrete — consisting of more finely broken stone or gravel and lime. This formed a bed for the surfacing (pavimentum, dorsum or agger vinae). Local resources determined the nature of this. In the neighborhood of Rome polygonal blocks of
lava or basalt were employed; on the later roads built by Trajan in Arabia great quadrangular slabs of the same stone; in Britain either cut and jointed blocks of native stone or cobbles firmly set in gravel or chalk. These blocks were of considerable thickness; Middleton illustrates a section of old Republican paving on the Clivus Capitolinus in which they were fully two feet thick. The surfacing was finished with a crown in the center to provide for drainage. In the best work the slabs were fitted together with great care - so that no binding material was required. In this connection we may quote Procopius, a sixth century admirer of the Via Appia - 'The blocks are so closely jointed and hold so tightly to each other that to the onlooker they give the appearance of being not joined but grown together. And although they have now been worn through so many centuries by the unceasing passage of carriages and beasts of burden, they do not shift from their order in the least, or break, or lose their smoothness.'

Occasionally solid concrete formed the complete road. On the earlier roads of the Danube valley it was laid without prepared foundation from .3 to 1.8 meters in thickness. In 1892 Erming St. over Barnley Moor Common was found to consist of a twelve inch layer of concrete fifteen feet wide. Nearer Lincoln sections of concrete have been unearthed from eight inches to five feet in thickness on a prepared foundation of gravel. Great lengths of timber roadways of Roman construction are still preserved in the marshes of Holland and Westphalia.

1 Procopius - de Bello Gothico. lib. 1
2 Niebuhr's 'Lectures on Roman History' - III page. 160.
In the neighborhood of towns or villages where foot traffic was extensive, sidewalks (margines) were added. These were especially common in France and are described by Bergier. Separated from the central roadway by a heavy curbing their surface was twelve to eighteen inches above it. The walk on either side was generally half the width of the roadway proper and was generally surfaced only with gravel. In the remains of the Roman roads in England there are commonly found curbs to the paving even where no sidewalks existed. These consist of dwarf walls of concrete or of large stones set on edge.

Roadways within city bounds require special notice. The ordinary term for a city street was 'vicus', for a side street or alley, 'pergula' or 'semita' if open at both ends, but 'angiportus' if blind. The word 'vicus' was also used to designate the whole district served by a main street including its subsidiary side streets. About one hundred of these 'vici' are mentioned in literature as existing in Rome alone. Within the Servian Wall only two thoroughfares bore the name 'via': the Sacra Via and the Nova Via, although on the Campus Martius we find also the Via Tecta, Via Lata and Via Formicata.

The original settlements on the site of Rome grew up on the various hills and linked themselves together by roads laid wherever convenient. Hence geographical difficulties and lack of method combined to produce a street system without uniformity in width, direction or spacing. Even after its destruction by the Gauls Livy tells us that no improved order was observed in its rebuilding. The great fire of 64 A.D.
completely destroyed three of the fourteen regions of Rome and seriously
1
damaged seven others. Tacitus tells us that at this time the houses
were not permitted to be rebuilt in haphazard fashion but that rows of
2
streets were regularly measured out and broad spaces left for them.
Martial describes a further widening of streets under Domitian.

'Iussisti tenuis, Germanico, cresce re visos,
Et modo quae fuerat simita, facta via est.'

This probably had to do with the districts unaffected by the fire under
Nero. The widening was largely effected by compelling the proprietors
of adjacent shops to withdraw their store fixtures from the street
allowance.

The height of buildings was a matter of constant concern in
Rome. Augustus had found it necessary to set a limit, which was apparen-
tly soon neglected for there were complaints of excessive heights under
Tiberius. After the great fire Nero issued restrictions and finally
Trajan limited the height to sixty feet. Judging from Jewenal's loud
complaints building contractors may have been disregarding this at his
3
time. Curiously enough Tacitus tells us that there were some who
complained at Nero's new provisions on the ground that the old narrow,
shaded streets were cooler and therefore healthier.

1 Tacitus, Annales, XV. 43.
2 Mart. 7.61.3
3 Tacitus. Annales XV. 43 and Furneaux's notes.
The principal streets varied in width from ten to nineteen feet, being on an average about twelve feet wide, while some of the side streets were as narrow as four feet. While this seems an excessively narrow allowance it is interesting to note that in the seventeenth century when Bristol was the second city of England her streets were too narrow to permit of coach travel.

The streets of Rome were paved with the heavy lava blocks quarried from the volcanic flow on the Alban Hill. The central thoroughfare was edged with a curb and sidewalks which were surfaced usually with a lighter paving. The maintenance of these sidewalks devolved upon the adjacent property holders so that a variety of material was used.

Pompeii, though of course far smaller than the capital seems to have been laid out on a more definite plan with straighter and wider streets. One may suppose that the so-called Stabian and Abbondaga streets, which are especially broad and cross almost at right angles, served as base lines for the others. Mercury Street has a breath of nearly thirty-two feet, Abbondaga of twenty-eight while the rest vary from ten to twenty feet. About one half of this width was devoted to raised sidewalks, variously paved with smaller slabs or concrete, here too apparently, at the discretion of the property holders. A striking feature in the remains of this town are the large oblong stepping stones between the sidewalks at the street crossings. As many as five are
found at the one crossing, rising to the same height as the curbing. They were necessary on account of the torrents of water which swept along such closely-paved streets during a rainstorm. Sewer openings were largely confined to the street ends at the city walls.

1 Cicero contrasted the extremely narrow lanes of Rome with the broader streets of Capua.

The first recorded bridge of Roman construction was that so ably defended by Horatius: the Pons Sublicius. It was built in the reign of Ancus Martius, to join the youthful Palatine settlement with its Janiculan outpost. For the convenience of the settlers at that time it probably crossed the river opposite the Forum Boarium, although all traces of it have disappeared. It was built on piling and no metal was ever used in its construction - doubtless to permit of its rapid demolition in the event of an invasion by the still formidable Etruscans - so well illustrated in Livy’s famous story.

The Pons Mulvius, also of wood, was probably constructed of contemporaneously with the Via Flaminia in 220 B.C. It crossed the Tiber about three miles above the city. By 192 B.C. the Island of the Tiber was joined to both banks. The censors of 179 B.C. had constructed the stone piers of a new bridge above the Pons Sublicius, apparently with a wooden superstructure, for in 142 B.C. arches (fornices) of masonry were added and the structure took the name of Pons Lapideus as the first of its kind. In 109 B.C. the censor Marcus Aemilius Scipio

1 Cic. de Leg. Agr. 2. 35, 96.
2 Livy I. 33
3 id. XL. 51.4
rebuilt the Pons Mävius in stone - four of its arches are incorporated in the modern Ponte Molle. The wooden bridges connecting the island with the banks of the Tiber were replaced in the first century B.C. by stone structures: the Pons Fabricius, built in 62 B.C. and the Pons Cestius. The former still remains - consisting of two main arches built of tufa and peperino with travertine facing. Under the early Empire three more bridges were thrown across the main channel: the first built by Agrippa and destroyed at an unknown time, the second by Nero to serve his gardens in the Vatican district and soon to be replaced by the third which was completed by Hadrian in 134 A.D. and designed to give access to his Mausoleum lying across the Tiber from the Campus Martius. Three arches of this, the Pons Aelius, were retained in the reconstruction of 1892. It now bears the name of Ponte S. Angelo. The excavations made at that time show that as originally planned it consisted of three main central arches approached by a slope from either bank carried on three smaller arches on the left and two on the right. The arches were built of peperino with travertine facing; the roadway was paved with polygonal blocks of lava. Its width over all was 10.95 meters, the roadway proper being 4.5 meters or including the footways, 8.85 meters.

The highways of Italy were supplied with bridges especially under Augustus. One of the finest and best preserved of those carried the Via Flaminia over the Ariminus to its terminus in Ariminum. It was constructed between fourteen and twenty A.D. It consists of five low massive arches whose piers are ornamented with niches topped by

1 cf. J.R.S. XV - Article by S.R. Pierce - 'Mausoleum of Hadrian and Pons Aelius.'
architraves and pediments while the parapet carries a cornice and corbels. Of quite a different type was the bridge which carried the same road over the Nar at Narnia - its central arch, now fallen, was over ninety feet high while the total length of the bridge was nearly Four Hundred and Forty feet.

The skill of the Roman engineer and the stability of Roman provincial administration are well attested by the impressive remains of such massive stone bridges throughout the provinces. A fine example is found spanning the Tagus at Alcantara (Arabic for 'the bridge'). It was erected, according to its inscription, in honor of Trajan in 106 A.D. to carry a branch road from the main line between Augusta Emerita and Asturica Augusta. There are six granite arches of varying span, the two in the center rising to a height of 54 meters with a span of thirty-four and thirty-six meters. Its breath is five meters. The stone piers, as usual, are built with acute angled cutwaters to reduce the pressure of the stream. Slight projections on the tops of the piers at the springing of the arches furnished a support for the centering. A triumphal arch spanning the roadway over the central pier still graces the whole. It has had an extremely interesting history - two of the arches on the right bank were broken down on three occasions - during the Moorish invasions, by the Portuguese in 1707 and again during the Napoleonic Wars. We owe its final restoration, effected in 1859, to the Royal Academy of Madrid.

\[\text{C.I.L. II, pages 759 ff.}\]
Bridges of stone piers supporting timber superstructures were probably common in the provinces though but few traces of them remain. Such was the structure which Trajan threw across the Danube at Egeta in 105-6 A.D., and which is represented on his column. Remains of the concrete piers, built up within oak piling, are still visible at low water. The length of the bridge was about 1,120 meters, the span of its arches was in some cases as much as 36 meters and its piers measured 21 to 22 m. in length and 13 to 19 m. in breadth. According to the figure on Trajan's column the wooden superstructure consisted of segmental timber arches built up with triple trusses supported on the piers of masonry. The architect was Apollodorus of Damascus.

The permanent bridge spanning the Rhine at Mainz, built probably under the Flavians, was of similar construction. Its pile and rubble foundations still remain. Of stone and timber too were the bridges carrying Erming Street over the river Nene and Watling Street over the Tyne near Corbridge.

We have several instances recorded of considerable wooden bridges constructed for temporary military service - the best known of these is the one built by Julius Caesar across the Rhine in 55 B.C. Two rows of double piles, sloping inward, were driven and joined by transverse beams which bore the plank flooring. The speed with which the Roman army engineers could complete such an undertaking is suggested in the two instances in which Germanicus bridged the Rhine. In the first

1 Caes. B.C. IV. 17
2 Tac. Annales. I 49. 6
case Tacitus deemed the feat deserving only of the words 'iuscuto ponte,' in the second the bridge was completed in a few days.

A number of paved fords have been discovered in England where the depth of the streams did not justify bridging.
CHAPTER III

ADMINISTRATION AND DISTRIBUTION OF COST.

The administration of the road system varied considerably in our period both in the matter of superintending officials and in the distribution of costs.

During the Republic the great roads at least were constructed at the public charge and under the supervision of the censors. So we find the blind Appius as censor in 320 B.C. building Rome's first paved highway within his term of office. In 306 B.C. we have 'vias per agros publica impensa factae'. The censors of 189 B.C. gave contracts for 'viam silice sternendam a Porta Capena ad Martis' and those of 174 B.C. 'vias sternendas silice in urbe, glarea extra urbem substernendas marginandasque.'

But on occasion other magistrates undertook roadbuilding. Of the two consuls of 187 B.C. who had spent the season subduing the Gauls of north Italy - Flaminius at the close of hostilities 'ne in otio multum haberet, viam a Bononia per duxit Arretium' and Aemilius 'exercitum in agrum Gallicum duxit, viamque a Placentia, ut Flaminiae committeret,

1 Livy. IX. 29
2 id. ib. 43
3 id. XXXVIII
4 id. XXI 28
5 id. XXXIX. 2.
Ariminum per duxit,' - thus leaving enduring monuments to their names.

In 293 B.C., although there were censors in office, it was the curule aediles who constructed a new piece of road. It was probably as much from a desire for more efficient administration in this department as for popular favor that Gaius Gracchus as tribune of the people in 122 B.C. carried out an extensive program of road building and bridge construction. It was as tribune of the people too, that Curio in 50 B.C. proposed a 'Lex Viaria' outlining an imposing program of road building and repairing with himself to serve as superintendent for five years. However, Curio's concern was not all for Rome's road system and in that troubled year his bill received scant attention.

As for the administration of the street system of the city the censors seem to have exercised a general oversight (luento) probably in the matter of financing, while the duties of the aediles were more of a police nature; e.g., seeing that adjacent property holders did not encroach upon the street allowance. But in addition to these officials a standing commission of four men was organized about two hundred and forty B.C. specifically for the management of the streets of Rome.

Dion states that by Augustus' time two more had been added to this board for the supervision of the roads adjacent to the city but without the walls. In his reduction of the Vigintisexvirate to a Vigintivirate, these last two were abolished but the first four retained. (quattuorviri viarum curandarum). We find them mentioned on inscriptions at least

1 Plut. G. Gracchus. 7
2 C.I.L. VIII, 2747.
3 Plut. Julius Caesar. 5.
as late as 150 A.D.

Toward the close of the Republic the senior magistrates were becoming overburdened with their much extended duties and different departments were beginning to be assigned to new officials. This was true of the management of the roads where we find overseers (curatores) being appointed as occasion demanded to superintend the renewal of a definite line of road. Julius Caesar after his quaestorship was appointed 'curator' of the Via Appia and lavished upon it a great deal of his own as well as public funds. A certain Thermus served as 'curator' of the Via Flaminia in 65 B.C. - the holding of which office was calculated to stand him in good stead for the consular elections of the following year. During the Civil Wars the roads of Italy must have been sadly neglected and it was due to their bad condition that Augustus in 27 B.C. undertook an extensive program of repair. He himself at his own charge rebuilt the Via Flaminia from Rome to Ariminum. Statues were erected to his honor upon the bridges at both terminal cities, and the dedicatory inscription still remains on the famous bridge at Rimini. At the same time he distributed the other lines of roads among exconsulars to be repaired at their own expense. But these were not so prompt in public service as their emperor and the other roads had to be renewed later out of the imperial treasury (fiscus).

1 Plut. Julius Caesar. 5
2 Cis. ad Att. I. 1
3 Dion. LIII. 22.
Thereafter 'curatores' of single roads were appointed on occasion by the emperors and good service rendered on one road might lead to further appointments on others. The office was regarded as one of much honor and was bestowed only on senators of high standing. Pliny writes of the appointment of a friend who had already shared his consulate: 'I had gone for a holiday to Comum when I heard that Cornutus Tertullus had received the curatorship of the Via Aemilia. This news was inexpressibly agreeable to me both on his own account and mine; upon his ............. because this unsought honor is bound to please him.' Even many of the emperors after Augustus were proud to assume the name when, as was frequently the case, they undertook the honorary oversight of rebuilding some line of road.

It was the duty of these 'curatores' to give out (locare) the contracts for the necessary operations to contractors (mancipes or redemptores) and to inspect their work when completed (probare, improbare). It is these officials and contractors to whom reference is made by Tacitus (21 A.D.):

'Corbulo plurima per Italian itinera fraude
mancipum at inuria magistratuum interrupta
et impervia clamatando executionem eius negotii
libens suscepit.'

Apparently the contractors had taken advantage of culpable leniency on the

1 Pliny, Ex. V. 14
part of the 'curatores'. Corbulo won much ill favor by his stern measures to reimburse the state from the property of the guilty officials. But even the position of the successful contractors was one of honor as shown by such an inscription as the following in which the quoting of the contractors title seems to have been a mark of respect:

1  D* M* S* CH* CORNELIO* CH* F* SAB* MUSABO* MANGIPI*
   VIAN* APPIAE* NERENIA* PRISCAIIL* CONIUGI* BONE*
   MERENTI* FECIT*

In describing Augustus' revision of the mirror magistracies Dion says that he instituted two new officials called 'O Smolov'. These were probably trained engineers who would work under the 'curatores' of the Italian roads.

In the provinces, many of the roads had been constructed by the conquering generals. The Via Domitia was laid through Gallia Narbonensis by Cn. Domitius Ahenobarbus who had crushed the Allobroges there in 122 B.C. Drusus, the stepson of Augustus built a road connecting the Po and Danube valleys after his campaign in that district in 15 B.C. Once a province had been organized as such the supervision of new building and maintenance became incumbent on the governor. This is clearly shown by a passage in Cicero's speech 'pro Fonteio' (6). Fonteius was propraetor of Gallia Narbonensis 75-73 B.C. The Via Domitia was in need of repairs

1  Orelli. 3221
2  Dion. LIV. 8.
and Fonteius was expected to undertake this task. But he was occupied with other matters and so entrusted it to two of his own 'legati' who let the contracts and approved the finished work. Lucceius Asprenas, proconsul of Africa in 14 A.D. is shown by a milestone to have supervised the surfacing of a piece of road from the winter quarters of the African legion to Tacapes, in that year.

The Romans both of the Republic and Empire seem to have had a lively conception of the national importance of their road system and hence of the obligations upon the national treasury for its maintenance. Thus throughout our period, at least the principal highways of Italy and the provinces were built and maintained largely at the expense of the central treasury or from the general taxes levied from the provinces. Our records of the effectiveness of their system as a whole would prove the superiority of the Roman method of administration over that of such notorious failures as the maintenance by parish units, or by the collection of tolls in Medieval and seventeenth century England.

Under the Republic, in the case of such roads as the Via Appia, built under the direction of the censors, the requisite funds were simply paid out of the national 'aerarium.' This too would hold where consul generals like Aemilius and Flaminius constructed roads with their armies. Although Julius Caesar in his curatorship of the Via Appia expended a great deal of private money, the major part of the cost must have been borne by the treasury.

1 Tac. Ann. I. 53.
We have seen that Augustus rebuilt the Via Flaminia definitely at his own charge and later found it necessary to provide the funds for the repair of the other Italian roads from the Imperial 'fiscus'. Henceforward the 'road department' seems to have been entirely under Imperial supervision. Thus we find milestones proving that roads were built and repaired by the emperors not only in Italy and the Imperial provinces but also in the senatorial provinces, such as Africa and Baetica.

But in addition to such strictly Imperial undertakings we do find sections of road built or repaired by municipal towns and provincial districts. These acted however under the authority of the Emperor - e.g.,

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1  EX· AUGORITATE· IMP· GABBARIS· TRAIANI· 
  HADRIAN· AUG· PONTES· VIAE· NOVAE· 
  RUSICADENSIS· R·(es)· P·(ublica)· CIRTENSIMUM· 
  SVA· PECUNIA· FECIT· SEX· IULIO· MAIORE· 
  LEG· AUG· LEG· III· AUG· PR· (o)· PR· (actore)· 
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Here we find the people of the African town Girta building the bridges of a new piece of road. Other instances of such action are proven by the milestones of the same province. We also find milestones in Spain bearing an emperor's name in the dative indicating that the road had been built and dedicated to him by an adjacent district. According to an

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1  C.I.L. 3 (1) 10236. 
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inscription found at Falerii, the leaders of the municipal knights (magistri Augustates), instead of giving the games which were their usual annual contribution, paved at their own expense a section of road. The milestones of Gaul alone give us a good picture of the method of financing provincial roads. Although Agrippa did much building in this province, none of his stones survive. But we have a number erected by Claudius. These, with one exception, carry the Emperor's name in the nominative case, almost certainly indicating that the roads in question had been built or rebuilt at the imperial expense. This one bears his name in the dative, indicating that it was the work of an adjoining district. On the stones of Hadrian, Trajan and Pius the name appears commonly both in the nominative and dative cases. But from the third century on the nominative appears but rarely, only once in the case of Severus, Caracalla and Postumus. This indicates that the Imperial treasury was willing to bear the cost of provincial roads until such time as the provincial communities were sufficiently organized and able to undertake it themselves.

The private resources of individual citizens too played some part in the construction and maintenance of Rome's roads. We have however no record of such private munificence during the greater part of the Republic when men had not yet accumulated tremendous fortunes and when the supervision of the roads was in the hands of the censors who drew directly from the public treasury. We have already noted Julius Caesar's contributions from his own purse when acting as 'curator' of the Via Appia.
This action was doubtless prompted by a desire for popular support.

It is under Augustus that we first find private contributions being commonly made. In the early years of that Emperor, Agrippa as aedile, 'rebuilt all the public buildings and streets of the city at his own expense.' Then later we find Augustus calling upon those men who had won triumphs to repair certain of the Italian roads from their spoils money (manubiae). This was the money coming into the hands of a victorious general from the sale of plunder or from ransoms. During the Republic this had been entirely contributed to the national treasury, but Augustus, since he controlled all military activities, demanded only a part of such monies for the Imperial treasury, leaving the rest to the generals. He then called upon them, fairly enough, to devote at least some of their share to public works.

We have many interesting inscriptions erected by others who had built pieces of road at their own expense. This we must remember is just one manifestation of the large scale benevolence displayed by so many Roman citizens particularly in the early centuries of the Empire when settled business conditions or lucrative government appointments made it possible to amass huge fortunes and when the first magistrate of the state was eager to encourage such giving by precept and example. These ventures on private road building must be classed with such examples of generous giving as Agrippa's Pantheon or Pliny's library in Novum Comum.

From a stone of uncertain date discovered in the wall of a
Campanian Temple (quoted by Bergier from Gruter) we learn that L. Apuleus a 'curator' of certain roads had built two miles at his own expense in addition to that built at the state expense. Another of the early part of the first century of the Empire relates how on two occasions a freedman who had attained no public office rebuilt sections of the Via Nomentana, as he is careful to state 'ex voluntate mea et impensa mea.'

Another generous freedman who had attained the office of sevir in an Umbrian municipal town, a physician by profession, contributed to the treasury of his town 37,000 sesterces (1,480) for the paving of roads.

We find too that in the case of some of the roads of Italy at least, their upkeep was partially levied directly against the adjacent property holders. This is explained in a chapter of Liculus Flaccus which we feel is worth quoting at some length. 'There are the public and regal roads which are built at the public charge and take the name of their builders. They are taken in charge by 'curatores' and the work is done on them through contractors. For the maintenance of some of them a definite sum is demanded on occasions from the occupiers of the adjacent (public) lands (possessores). But the district roads (viae vicinales) which turn aside into the farming country from the main highways and often extend to other main highways, are kept up in a different way: by the districts; i.e., the district magistrates, who are accustomed to demand the services of the property holders for their maintenance or, as we learn, certain lengths of road are allotted to individual holders, who

1 Museo Laterano.
maintain them at their own expenses. Also when they have completed their sections they have tablets erected to show whose farm it is, who is the master and what length he is maintaining.' It is further borne out by an interesting bit of evidence from Cato's 'de Agricultura' where the farm manager finds it inconveniently necessary at times to furnish his slaves for work on the highway. We also have an inscription which tells us that both the Emperor Hadrian and the adjacent property holders contributed in the proportion of two to one to the rebuilding of a section of the Via Appia.

This same milestone gives us our one definite and certain piece of information on the cost of building. The former surfacing must have pretty well disappeared (longa vetustate amissam); the length rebuilt was 15,750 paces = 76,450 English feet. The Emperor contributed 1,147,000 sesterces, the property holders 569,100 making a total of 1,716,100 sesterces = $63,432 giving a cost per mile of about $4,378. From a mutilated inscription dealing with the reconstruction of the Via Caecilia it seems probable that the gravelling of a twenty mile section through the Apennines cost about $5,550 (150,000 sesterces). In considering these figures we must bear in mind the relative value of the money of that period and of today. In 14 A.D. the legionary soldier was receiving ten asses, about eight cents, per day. Food was furnished free of charge but from this wage the soldier had to provide clothing, arms and shelter.

1 C.I.L. IX. 6075
2 C.I.L. VI. 3824 = 31603
Christ in his parable of the laborers in the vineyard suggests that one penny; i.e., one denarius (about 16 cents) was a common wage for the unskilled laborer.
A considerable variety of vehicles was in use for different purposes. The 'plaustrum' was the crude, heavy wagon used chiefly for agricultural purposes. It had usually two, sometimes four wheels. These were either merely transverse sections of a hardwood log or built up of planks laid in alternate directions. No tires are visible in existing representations. A platform was built on the axle and a basket rack might be added. A heavy pole extended to the yoke. Such a wagon could not stand the jolting of a metalled road and could not be driven at any speed. Oxen accordingly were the common power.

The 'raeda' or 'reda' was a better built carriage of Gallic origin, and was the one commonly used for comfortable travelling and heavy freighting. Juvenal's Umbricius had heaped all his household goods on one 'reda'. It regularly possessed four wheels. According to a decree of Constantine, those employed by the Public Post were not to be loaded with more than 1,000 pounds each and were to be drawn by eight or ten mules according to the weather and road conditions. A lighter type of 'reda' was called a 'carrus' - whence the French 'carrosse' and the English 'carriage'. 600 pounds was its maximum load.

1 Juv. III. 10.
The "carpentum" was a lighter two-wheeled carriage ordinarily employed for short trips. It was usually drawn by two mules although occasionally by horses and for display by as many as four of the latter.

It was in a "carpentum" that Tarquin and Tanaquil were riding when the former lost his cap to the eagle. Its use was permitted to the Roman matrons in gratitude for their gift of gold to the state in 395 B.C. This privilege was granted under the Empire to female members of the Imperial family; e.g., to Agrippina by the senate. The medal struck in honor of this occasion survives and well illustrates the ornamentation that might be lavished on these carriages. The body carries a frieze and is covered by a canopy supported at the four corners by Caryatides. A section in the middle is enclosed by side pieces ornamented with painting on carving. Propertius' Cynthia had silk curtains on the one in which she rode to Lanuvium. It was in a "carpentum" too that Juvenal's dissolute noble enjoyed the thrill of a nocturnal "joy ride";

\[ \text{\textquoteleft Præter maiorum civeres atque ossa volucris} \]
\[ \text{Carpento rapitur pinguis Lateranus.\textquoteright} \]

We find occasional mention of several other light vehicles. The "cisium" was an open gig, as illustrated on a column at Igel near Treves, not unlike our own two-wheeled road cart. It was drawn by a

1 Livy I. 34
2 ib. V. 25
33 Tac. Ann. XII. 42
4 Prop. IV. 8.53
5 Juv. VIII. 146-7.
single horse or mule. Cicero mentions a journey of fifty-six miles completed in ten hours in a *cisiaum*. The *cabii* were called *cisiaii* and seem to have driven a thriving business along the great roads of Italy. The *essedum* was a Roman adaptation of a Celtic war chariot.

2. It was a two-wheeled carriage but required two horses. Cicero describes its use as a piece of display on the part of a tribune of the people, but Seneca includes the roar of the *essedae transcurrentes* among the ordinary disturbances of the capital. The *covinus* was another type of Gallic war chariot adapted by the Romans to the needs of civil life. It was enclosed on all sides save the front and accommodated only the one man who was both driver and passenger—hence Martial commends its privacy.

Our knowledge as to the actual construction of these carriages is meagre. A few scattered remains indicate that the art of the carriage builder and wheelwright were well advanced. As to the gauge of the wheels—Procopius says that two carriages could pass abreast on the Via Appia which was thirteen feet wide at the narrowest. Wheel tracks are still visible in sections of the Fosse Way with a gauge of two and three quarter feet, on Watling Street near Blackstone Edge of either two feet or four feet, eight inches, near Abbey Dore of about four feet, six inches.

2. *ib.* Phil. II. 24
3. Seneca. Ep. 57
4. Mart. XII. 24
The Roman method of hitching the animals to the carriage was quite different to ours. Where one beast was used, the carriage was equipped with shafts and a neck yoke. The team of two required a single pole with a yoke attached. When three or more animals were hitched abreast the outside ones drew on traces and were then called 'funales'.

We pass now to a means of conveyance which seems quite foreign to the modern western world; viz., the litter or portable couch (lectica). It seems to have been in use among both Greeks and Romans from early times. Throughout both Republic and Empire it was employed at Rome for carrying the bodies of the dead to the grave. Those employed for this purpose might be extremely ornamental, - that used at the funeral of Augustus was made of ivory and gold and covered with costly drapery. It was also the common conveyance for sick persons and for wounded men in camp.

A covered form of litter had been introduced from Asia and employed for road travel in Greece from early times but especially after the period of Alexander. It is not till the time of Gaius Gracchus that we hear of its use among the Romans for this purpose. They soon became quite common for journeys outside the city but within Rome were used only by women and invalids. Claudius permitted their use only to special favorites. By Juvenal's day we find great throngs of them together owned by persons even of slender means, both men and women.

1 Dion Cassius LVI. 34
2 Juv. I. 1. 120-121.
The 'lectica' was a couch fitted with four short legs to support it when resting on the ground. It ordinarily could accommodate two persons although Juvenal's 'causidici nova cum veniat lectica Mathonis plena ipso'

The frame was commonly constructed of precious woods and might be fitted with a feather tick. From the first the litter seems to have been sheltered with a leather canopy supported on corner posts - 'lectica luta pelle veloque'. The sides too were regularly closed in by curtains or in later times by sliding windows fitted with mica - producing the 'clausum latis specularibus antra'.

The litter was equipped with removable poles (asseres) by which it was carried on the shoulders of sturdy slaves (lecticarii) - 4, 6, 8 or even 12 in number. If it were conveying a distinguished man a slave went in advance to clear the way of pedestrians, often with scant ceremony. Juvenal gives a good picture of the use and comfort of this conveyance:

\[
\text{Si vocat officium, turba cedente vehetur} \\
\text{Dives, et ingenti currat super ora Liburno,} \\
\text{Atque obiter leget aut scribet vel dormiet intus,} \\
\text{Manque facit somnum clausa lectica fenestra.}
\]

1 id. ib. 32, 33.
2 Mart. XI. 98. 11
3 Juv. I. 4. 21.
4 Juv. L. 3. 239 ff.
The 'sella' was a portable chair, similar to the 'leictica' save that the passenger reclined in a more upright position. Its use did not become common until Imperial times. Both open and curtained forms are mentioned. Like the 'leictica', the 'sella' gave opportunity for the display of great extravagance and under the late Empire at least we read of them being ornamented with bone, ivory and silver. They were used both by men and women within and without the city; although Pliny implies that their use in Rome was not common - 'Romae quoque solta vehebatur' - meaning his. This same gentleman found the motion easy enough to render study in route quite practicable. Indeed it was doubtless their steady motion and comfort that made their use at all common in a world possessed of splendid roads, but no system of mechanical springs for absorbing road shocks.

The traffic problem was always a pressing one in the narrow streets of Rome. There is sufficient evidence to prove that wheeled transportation of passengers was not tolerated either in the capital or the leading provincial towns till at least the third century of our era. Persons of any means might travel through the streets in litters or sedan chairs - the less fortunate walked. Galen states that a rich man drove from his suburban home to the place - presumably near the bounds of the city - 'where they are accustomed to dismount from their carriages.'

A municipal law of Julius Caesar (44 B.C.) forbade the use of vehicles on the streets of Rome during the first ten hours of the day starting

1 Pliny. Ep. VIII. 5.15.
from sunrise. Exceptions were made in the following cases: (1) vehicles used for public buildings and temples (2) for the Vestals, the Flamines at public sacrifices, for the 'Rex Sacrorum' and triumphing generals, (3) for public games, especially circus processions (4) vehicles which had entered the city during the night and were leaving empty or carrying out public refuse. Private individuals moving from the city had to leave their wagon at the city wall and carry their goods to it, or else wait till nightfall. We may conclude from Juvenal's descriptions of the street noises by night that they were used to capacity even in the darkness. Even the wagons carrying materials for public buildings would entail a considerable traffic by day. Hadrian prohibited the carrying of excessively heavy loads, doubtless for the protection of sewers and the foundations of buildings. Similar restrictive measures seem to have been in force in the other cities of Italy for Claudius reminded travellers to pass through the towns of Italy on foot, in sedan chairs or litters.

In gratitude for their generosity at a time of national danger the women of Rome in 395 B.C. were granted the privilege of riding in carriages on the occasion of sacred ceremonies and public games and on holidays. This right must later have been abolished for Tacitus remarks that it was a very special honor when granted to Agrippina in 51 A.D. The same favor had been shown to Messalina by Clausius.

1 Juv. I. 3. 10-11.
2 Livy, V. 25. 9.
3 Tacitus, Ann. XII, 42 and Furneaux's note.
CHAPTER V

THE POST

To his organizing genius Augustus early realized the great possibilities that lay in the vast net of Imperial roads, the Roman government owed its first definitely arranged mail and despatch service, (Curæs Publicus). Such an institution had become an absolute necessity to a centralized government which would maintain a uniformity of administration and keep a check on its officials scattered to the far ends of the known world. In Republican times provincial governors and other officials had found it necessary to maintain their own staffs of messengers (tabellarii). Private citizens of means might employ their slaves as letter carriers as Cicero frequently did. Otherwise it was necessary to wait for an obliging traveller going to the desired place. There are also traces of organized guilds of these 'tabellarii' open to hire by officials or citizens. Julius Caesar had established a more extensive messenger service between the different theatres of the Civil War.

The system as organized by Augustus reminds us of that employed on the ancient Royal Roads of Persia. At first messages were carried by relays of couriers either on foot or mounted. But it was soon found advisable that the one messenger should bear the report over the whole
distance - so that if necessary he could supplement his written with an oral message. To permit of this Augustus provided relays of carriages. In addition to messages, passengers on important state business might now be carried. But to do so they required a certificate (diploma) issued at Rome only over the Emperor's seal, in the provinces only over that of the governor on dated forms supplied by the former. This privilege was jealously guarded as we may judge from the tone in which Pliny apologizes to Trajan for granting it to his wife to make an urgent journey to a bereaved relative. Later, a third branch was added to the service, providing for the transport of imperial property and the families of officials.

As originally organized, those employing the Post were licensed to requisition animals and carriages from the districts through which they passed. This proved a heavy and galling burden so that Nerva released at least Italy from it by requiring his messengers to travel on foot or hire their conveyances. Trajan however restored the old system as it proved more speedy. Hadrian transferred the cost of maintenance to the public treasury, Pius threw it back on the districts, Septimius Severus reverted to Hadrian's system and so it continued to fluctuate. Hadrian replaced freedmen by knights as superintendents of the Post (praefecti vehiculorum) at Rome, giving them a salary of $4,000 (100,000 sesterces). There were also subordinate superintendents in each province.

1 Pliny. Ep. ad Trajan. 64.
The lines of roads were marked off by 'mansiones,' quarters for spending the night - about twenty-five miles apart. Lodging places (praetoria, palatia) were provided at these for the travelling officials. It was probably not till the time of Constantine the Great (306-337) that changing stations, (stationes) were regularly provided, two between every one or two mansiones. According to Procopius, forty horses were maintained at each station. The keeping of the stations was let out by contract to men who undertook to provide the necessary animals and service.

The 'Cursus Publicus' doubtless served well the purpose for which it was intended; i.e., state business only. To the mass of the citizens and provincials it meant a burden rather than any direct benefit. It was perhaps due to the Roman's lack of inventive genius, that it did not develop into a postal service for the convenience of private life as well. A similar royal post established in England in the sixteenth century, in spite of far less perfect equipment, did branch out and become available for private citizens, finally to flower into our modern postal service.

The question of the speed attained by the Post has given rise to much controversy, largely because the records of times and distances which have come down to us are naturally for the most part exceptional and for that reason were worthy of special notice at the time. These consequently require care in interpretation. We may be certain that

1 Procopius. Anecdota. 30
speed was not the sole consideration in this service. The great bulk of
the business handled would demand rather communications which could be
absolutely relied upon to cover certain distances in known times; e.g.,
instructions from the central government to provincial governors and the
tax returns travelling the other way. Men and horses were on duty for
weeks on end so we must consider what could reasonably be expected of
them in the way of a regular, efficient service.

1 Procopius, the historian of the sixth century is the only
ancient writer to leave us a definite statement of the speed required
from the Post couriers - and we have no reason to doubt the accuracy of
a man given to investigation and who must frequently have employed that
service. He states that as established under the early Emperors a
courier was expected to cover usually eight, not less than five stages
(of approximately eight and one-third Roman miles) per day. At this
rate fifty Roman miles per day would be a fair average. A number of
fairly definite instances support this as a standard maintained under
normal conditions.

The young prince, Gaius Caesar, died at Limyra on the coast of
Lycia 21st February, 4 A.D. From an extant inscription we conclude
that the news reached Rome in thirty-six days. At this season the courier
would almost certainly choose a land route, including the Via Egnatia.
Reckoning his distance covered by land as 1,500 Roman miles and deducting

2 Orelli, Inser. Lat. Sel. No.643* Dessau 140.
two days for the crossing of the Adriatic we have a rate of forty-five miles per day. The accession of Pertinax at Rome on January 1st, 193 A.D. was officially announced in Alexandria, necessarily immediately upon its being known on 6th March. This again was the season of closed seas so that the courier probably travelled by way of Aquilica, Sirmium, Byzantium and Nicomedia, a total distance of 3,177 miles in a travelling time of sixty-three days. His rate would be slightly over fifty miles per day. If he chose the Via Egnatia he travelled about 2,730 miles by land - two days must be deducted for the passage of the Adriatic - resulting in a daily average of about forty-five miles.

But we have clear proof that this rate might be exceeded on critical occasions. News of the mutiny of the forces of Upper Germany at Moguntiacum on January 1st, 69 A.D., reached the procurator of Belgica and was forwarded by him to Rome, arriving there not later than January 9th. Friedlander reckons the total distance covered via the Mont Genevre road, at 1,440 Roman miles. Thus the couriers had covered 160 miles per twenty-four hours in the depth of winter and over a mountain pass. In 9 B.C. Tiberius rode to his brother's death bed in his German camp, from Ticinum - covering the two hundred miles in a day and a night. Tiberius at this age was capable of enduring great fatigue and must have shown no pity for his horses.

2 Pliny. N.H. VIII. 94.
We may compare the records of some private journeys. Aristides, the rhetorician, travelled to Rome by the Via Egnatia in the winter of 144 A.D. He was in ill health and had to procure his own means of conveyance, likewise his guides and hotel accommodation – the latter at times proved no easy task. Nevertheless for part of the way he could keep pace with the 'Cursus Publicus'. This would indicate that the Post, with well organized relays and wayside accommodations was aiming at a regular service of moderate speed. Rutilius Rufus, Cicero's friend, reached Rome from Mutina – a distance of 317 miles – in six days. Ovid tells us that a traveller could comfortably cover the 360 miles between Rome and Brundisium in ten days. In Cicero's day letters carried by private messengers travelled about fifty miles per day – a startling contrast to the speed attained by twentieth century air-mail but very commendable in consideration of the fact that in 1635 two months passed before an answer was received in London to a letter to Scotland or Ireland.

1 Aristides Grat.
2 Cíc. ad Fam. XI. 6.1.
3 Ovid. Epp. ex Pont. IV. 5.3.
The milestones were one of the familiar features of the Roman road not only in Italy but throughout the provinces. 'When one is walking along a road,' says Quintilian, 'it relieves one's weariness to read the distances on the milestones. It is a pleasure to measure the weary way one has come, and to know how far one has to go makes one foot it more courageously'. They were called 'miliaria' or simply 'lapides'. Hence we find 'ad tertium lapidem a Roma' meaning three miles from Rome. Livy occasionally uses this phrase in speaking of very early times but we must regard this as deliberate historical anachronism used for the purpose of better defining geographical points. Probably the first historical mention of Roman milestones is found in Polybius (c.202 - 123 B.C.) : 'From Emporione in Spain to the passage of the Rhone is a distance of about 1,600 stades; for all this distance has now been carefully measured by the Romans and marked with milestones at every eighth stade.' Again, he describes the Via Egnatia as having been measured in miles and marked.

2 Polybius III. 39
3 id. XXXIV. 12.
out with milestones as far as the Naenus. Our earliest extant milestones are three from the Via Aemilia, bearing the name of M. Aemilius Lepidus its builder, consul in 167 B.C. A couple of others bearing the name of P. Popillius Laenas, consul 132 B.C., have also been found. C. Gracchus is sometimes credited with having originated the practise of erecting milestones but in view of the foregoing we must conclude that Plutarch's passage means that he set up stones on the roads he himself built in his tribunate (124 - 122 B.C.).

Julius Caesar instituted a great survey of the whole Roman Empire from which it seems that the system of milestones was wide spread even at his time. During the course of this survey Augustus erected the famous 'Miliarium Aureum' - a gilded marble column in the Forum Romanum. This was regarded as the focal point of all the roads of Italy. Remains of the base of this column have been unearthed behind the rostra at the end nearest the Temple of Saturn - which agrees with Tacitus' statement that the praetorian conspirators who killed Galba 'ad Miliarium Aureum sub aede Saturni'. It carried a list of the principal places on the roads radiating from Rome and the distances to them measured from their respective gates in the old Servian wall. It seems probable that such central milestones were set up in the leading cities of the provinces. Constantine erected a large building in the forum of Byzantium to serve

1 C.I.L. ii. 6642-4-5.
2 id. i. 550-1.
3 Plut. C. Gracchus. 6.
4 Tac. Hist. i. 27.
the same purpose. The famous London Stone, still to be seen in a wall of St. Swithin's Church in Cannon Street is a fragment of London's 'Miliarium Aureum'.

The ordinary milestones of the early Republic were roughly shaped quadrangular blocks of local stone with their base set into the ground. Later marble was used; the base was commonly left square, the upper part rounded, or a round column might be set on a small squared pedestal. These columns under the Empire ranged in height from one to four meters averaging about 1.8, with an average diameter of .5 meter. The inscription might or might not be enclosed by an incised margin.

The inscriptions which they bore permit of a three-fold classification:

I. We may find only the name of the builder in the nominative case with his office followed by a numeral. Thus an early Republican stone already mentioned reads simply - P. POPILLIUS C. | F. COS. | XXXI. Those erected under the Empire commonly bear the Emperor's name and titles followed only by the numeral. But the name and title may be followed by a verb of making (feicit, poni iussit, muniendam curavit, miliaria restituit) with or without an object (viam or iter). The previous condition of the road or the reason for building may be given in a phrase. The numeral too may be followed by M.P. (milia passuum) ex.

    TI. CAESAR | DIVI. AUG. F. AUG. | PONTIF. MAX./
    TRIB. POT. XXXII | REFECT. ET. RESTITUIT. | XLI.
II In the second class the name of the emperor or magistrate appears in the dative case. This may be followed simply by the numeral or by the name of the official or official body making or supervising the road together with a verb of making. In either case the road has been constructed at the cost of someone else and dedicated to the Emperor or magistrate. In Gaul the district which built and dedicated the road is commonly indicated by the letter C (civitas) with the initial letter of the genitive plural of the people.

III From the time of Vespasian and later we find that stones were erected in Africa, rarely elsewhere, with the name of the Emperor appearing in the ablative case and frequently followed by the name of the official in charge, also in the ablative, and of course with a numeral. Such an inscription apparently did nothing more than furnish the date. It is uncertain whether these were erected by provincial districts or by the Emperor.

Inscriptions on some of the roads of Italy and Sardinia show numerals at the beginning while in others of Italy the numerals occur both at beginning and end, the former indicating the distance from a neighboring city, the latter the distance from Rome. In the provinces the stones were usually numbered from the capital city of the district to its border if constructed by a district, or if built by the Imperial government they were reckoned from the capital city of the province. Occasionally the name of the town of starting appears in the ablative

1 C.I.L. 12 (2). 5455
with the preposition 'a' and that of the terminus 'ad quem' in the accusative governed by 'ad'; e.g.,

1 Via Augusta a ano ad Oceanum

There is a good deal of variety in the stones of the eastern provinces but generally the inscription itself is in Latin, the figures and the names of places in Greek.

The regular unit of road measurement was of course the 'mille passus' or 1,000 double paces of five Roman feet (pedes) each. The ratio between the Roman and the English foot has been determined with considerable accuracy in a variety of ways. A number of bronze and iron foot rules of ancient times have been discovered but unfortunately these do not exactly agree in length. Numerous careful measurements have been made of stretches of road which contain a known number of 'milia passuum'. A commonly accepted result is that the Roman foot was equivalent to .9708 English feet. Hence the 'mille passus' was the equivalent of 4554 English feet and contained almost exactly 8 Greek stades of 666.75 English feet each. In Gaul and the Germanies alone a native unit of measurement was recognized; viz., the league (leuga) containing 1,500 Roman paces or 7281 English feet. No milestone erected in those provinces after 98 A.D. bears the initials M.P. while stones of subsequent date and especially after the reign of Septimius Severus are commonly

1 C.I.L. 2. 4697.
2 C.I.L. 13 (2). 8396, 8906, 9108.
found with one or other of the abbreviations for 'leuga', L or LEUG.

As the Roman dominions extended and the roads were pushed to the bounds of the farthest provinces it became necessary to have information regarding the road system in a readily available form both for government officials and for private business men. To provide this was the chief aim of practical Roman geography.

We have already seen that Julius Caesar had set on foot a survey of the Empire. This was carried out under Agrippa's supervision and completed after twenty-five years of labor. It was probably compiled from reports submitted by provincial governors and their surveyors. Italy, Greece and Egypt were dealt with most fully. The results were embodied in extensive charts which were inscribed on the walls of Agrippa's portico probably in a frieze like band - known as the 'orbis pictus'. The lines of roads, names of towns and the distances may have been depicted upon it. As a supplement to this Agrippa prepared a volume of commentaries which would be invaluable in government offices. It is probable that reduced copies of the large chart were prepared for private use and the education of the young. The frequent geographical allusions throughout Horace imply a fairly extensive geographical knowledge in his readers while the formal study of the subject is clearly shown in a poem by Propertius in which a girl whose soldier lover is serving in the East says:

'Et disco qua parte fluat vincendus Araxis,
Quot sine aqua Parthus milia currat equus;
Cogor et e tabula pictos ediscere mundos.'

1 Prop. IV. 3. 37.
The great geographer Ptolemy is commonly believed to have availed himself of Agrippa's work.

It is just possible that we have a third or fourth hand copy of Agrippa's map in the 'Tabula Peutingeriana', a product of the 13th century reproduced from an original of the third or fourth century.

Our only surviving example of the 'itineraria picta' or travelling maps, it consists of a parchment scroll .34 m. in breadth and 6.82 m. long, though the westernmost of the original twelve strips is lost. To permit of this convenient form the outlines of countries are greatly distorted for they are tremendously compressed from north to south. It merely gives an outline of the road system, afforded a suggestion of the relative positions of places and indicated their distances by subjoined figures.

A number of 'itineraria adnotata' remain. We have that of Antonine, dating from early in the fourth century and comprising lists of the halting places throughout the Empire with a statement of the distances both by land and sea. The Itinerarium Burdigaleuse or Hierosolyma - itanum, prepared in 333 A.D. gives an account of a pilgrimage from Burdigala to Jerusalem and back to Milan through Rome.

An interesting discovery was made in 1852 in the course of some reconstruction work at the hot springs of Vicarello in north Italy-famed for their medicinal properties both in ancient and modern times. Among a number of precious vases found lying on the bottom of a pool and inscribed in dedication to Apollo and the nymphs, were four of silver. They ranged in height from 9.5 to 15.3 cms. and were shaped like
milestones. Upon each was inscribed a list of towns, varying on the
different vases from 103 to 111, lying on the road between Gades and
Rome. The intervening distances are given in each case, together with
the totals - ranging from 1835 to 1842 Roman miles. They date from the
third century and point to a regular industry of supplying durable guide
books for tourists to the capital. Similar inscriptions have been
discovered on stone columns at Autun (Augustodunum) at Tongres in Belgium
and in Northumberland. All indicate the most readily available form for
geographical information at a time when written works were extremely
rare. On the whole the Roman world was much better equipped with
geographical knowledge than any age up to the sixteenth century.
CHAPTER VII

WAYSIDE ACCOMMODATIONS.

The inns and stopping places of the Roman world would compare unfavorably with those of modern times in point of number, accommodations and respectability. This condition may be partly due to a difference in demand. The Roman gentleman of means had a number of country houses or villas scattered at least throughout Italy which not only furnished pleasant retreats from business cares and unpleasant weather but also served as convenient lodging houses when he travelled. Cicero, a man of no great wealth, had eighteen such villas and possibly four less pretentious establishments — mere lodges (divorsoria) acquired apparently for convenience in travelling. One of these he had purchased for as little as $1,200 (30,000 sesterces). Persons of distinction carried more of their personal conveniences including slaves with them and so required that much less from the public inns. Seneca on his famous walking tour in company with his friend Caesonius Maximus considered that he was travelling in the humblest circumstances when he took along so little luggage and so few attendants that one extra carriage was

1 Middleton's Life of Cicero - II page 466.
2 ad Pan. XII. 20 - Watson's note.
3 ad Att. X. 5
4 Seneca ep. LXXVII
sufficient. His master Nero, we are told, never made a journey with less than 1,000 carriages, his mules shod with silver and attended by a train of Moorish horsemen and couriers. Then too the citizens were required to quarter in their own homes travelling officials, judges and soldiers - Such regulations were naturally open to abuse and the burden became so heavy that Vespasian exempted philosophers, grammarians and physicians.

But there is evidence that good inns did exist. Epicletus compares men who instead of proceeding to their true home of philosophy, linger in the wayside resort of oratory, to the traveller who remains at a comfortable inn and forgets himself at the many pleasant half-way houses. Strabo mentions the good inns that he found at many places. In some towns a choice of inns was open to the wayfarer. Plutarch censures the false shame which would make a man select the poorer.

Horace describes the little town of Forum Appii at the head of the canal through the Pompine Marshes as being 'packed with sailors and innkeepers.' In the course of this, his famous excursion to Brundisiwm we find him stopping at inns possibly five times in all, a couple of times at the homes of friends. Occasionally we hear of municipally owned hotels. Augustus presented a piece of land near the Springs of Clitumnus to the town of Hispellum which erected upon it an inn that satisfied even the fastidious Pliny. The owners of property along much frequented highways

1 S. Nero, 30.3
2 Epicl. Disc. II. 23.36
3 Hor. Sat. I. 5.
4 Pliny. Ep. VIII. 8
5 Varro R.R. 1.2.23.
found it profitable to build inns which could be furnished with supplies from their own farms. Sometimes too the Imperial government provided lodging places (praetoria) along main roads, designed primarily for the convenience of the posting service and travelling officials but probably available at times to civilians. These were provided especially in thinly populated districts like Thrace or along Hadrian's new road to the Red Sea.

The reputation of the innkeeper (caupo) was in general low. The jurists constantly indicate that many inns were little more than brothels. Horace uses 'perfidus' - faithless, as the stock epithet of the profession, elsewhere he describes mine host as 'malignus' - of mean disposition. From their readiness to water their wine Trimalchio concludes that they were born under the sign of Aquarius. But it was not only their human guests who suffered - Martial complains of them stealing the horses' oats.

The inns frequently carried the names of birds or animals, such as the Camel, the Cock, the Crane. A commercial hotel at Lugdunum bore the inscription, under the figures of Mercury and Apollo: 'Here Mercury promises gain, Apollo health, Septumarmus (the owner) means and rooms. Anyone coming in will be better for it; stranger, look to where you stay.' On the whole the interiors seem not to have been attractive. The company was often low and noisy. Doubtless there were many 'lacrimoso non sine fumo.' Horace describes an amusing experience in which

1 C.I.L. 3. 6123.
2 Mart. XIII. II
3 Hor. Sat. I. 5. 80 ff.
4 id. ib. 71 ff.
the excited, bustling host, while tending the spit, lets the fire rise too high and soon the 'old kitchen' is wrapped in flames. Rates were probably reasonable. The two pence or denarii (thirty-two cents) of the Good Samaritan provided for at least a day's board and lodging with medical attention. A relief from Imperial times found at Aesernia in Samnium depicts a traveller leading his mule and bargaining with his hostess - the legend states that the bread is one as (.8 cents), dessert two asses, service two, hay two, wine free.

Such inns as we have described were called 'cauponae', 'tabernae', 'diversoria' or hospitia. There were probably many stopping places of this description in Rome itself, especially for the poorer class of visitor.

In addition we find the popinae or cook shops in which cooked food and drink was sold. Originally these places were the resort of the dregs of the populace and slaves, later they became the favorite lounges of debauched nobles. They were a constant nuisance to the authorities and were partially repressed under Tiberius and Claudius.

1 Suet. Tib. 34.
2 Dion. LX. 6
Collection of Customs Duties

The collection of customs duties was a familiar proceeding to the Roman traveller. We are here concerned not so much with the historical as the administrative aspect of this question. Suffice it to say that customs duties (praetoria) formed the bulk of indirect taxation in the Roman world. They were levied on imports and exports destined for sale passing over the boundaries of every province and were collected either in the harbor towns or in centers along the frontiers.

Of these duties in Italy itself we know little. The rate was probably 2½% (quadragesima) collected chiefly at Puteoli, Brundisium, Ostia and Aquileia. Lugdunum was the center of the collecting system of Gaul. The rate here too was 2½%, as also in Asia. In Sicily, all Illyricum and possibly Africa it was 5% (vicesima). In Syria there was a different rate for different wares.

In Republican times the collection of the customs was regularly farmed out under the supervision of the censors to well organized companies - the contracts running for five years. Augustus, realizing the wastefulness of the system, placed the collection in all the provinces, both imperial and senatorial under imperial control. Contracts were still let to private concerns but imperial officials were stationed in every collecting center to keep a close oversight upon them. The contracts were still ordinarily of five years duration but subject to the Emper-
The farmer was required to submit an annual report.

In general all goods intended for commerce were subject to the duty with these exceptions: travelling equipment, agricultural implements, any property belonging to the Imperial treasury or any supplies for the armies.

The traveller was required to make a declaration of his dutiable goods but his person and luggage might be searched. Women however might not be searched though (according to a mock speech of Quintilian) they were capable then, as now, of smuggling such articles as jewelry. The collector had armed force at his back in case of need. The attentions of overzealous officials were as much enjoyed then as now. As Plutarch says: 'We object to customs-officials not when they examine open wares but when they finger the inside of bags; and yet this is their legal duty'. In case of fraudulent misrepresentation on the part of the traveller he suffered confiscation of the goods. On the other hand if the collector were convicted of wrong exactions he was required to make a refund of twice the value of the collection, or if violence had been used, of three times. To assure a general knowledge of the legal requirements the publican had to post up the prevailing rate of duty. There were a number of classes exempt from payment: the Emperor and his family, imperial officials, foreign ambassadors, and soldiers. The Emperor might also grant exceptional rights of exemption, as Trajan did to Polemo the sophist of Smyrna.

1 Quint. Declam. 349.
Safety of Travel

Violence to travellers by brigands and footpads was little more to be feared along the Roman roads of our period than in the south of Europe at the present day. Out of a population of 157,000 in the district of Zara in Dalmatia, between 1851-63, 2,659 trials for public violence were held, 1919 persons were maimed and 507 murdered. In the winter of 1869 a little bathing village in the south of Spain was assailed and sacked by bandits and eighteen visitors killed. At the opening of the 19th century the road from Dover to London was still rendered insecure by highwaymen. It would require a good many single inscriptions in a 'Corpus' of modern times to record these incidents alone.

But we do know that brigandage was a matter of concern to the ancient traveller especially on the frontiers and mountainous country. A number of inscriptions from the Danube region record violent deaths on the highways. In Asia the tribes of Cilicia and Pamphylia were especially noted for their predatory habits. The Gospels show clearly that Palestine had its highwaymen. Brigandage was most common in Italy after the civil wars of the last century B.C. which produced so many broken men, runaway slaves and general misery. But later on Juvenal tells us of the numbers of robbers in Rome and along the marshes and forests of

1 Fried. I. pp. 294-299
the Via Appia. The glorified bandit is a frequent figure in the romance of Apuleius as he has been in the tales of Robin Hood and Dick Turpin in our own literature.

But the authorities made a serious effort to repress violence. Augustus and Tiberius built guard stations along the highways of Italy. The results of their efforts are illustrated in the lines of Juvenal referred to above:

"Armato quoties tutae custode tenentur
Et Pompitina palus et Gallinaria Pinus".

In the provinces too provision was made for public safety. In the west we hear of 'praefecti arcendis latronibus' at the head of city forces while in the east the 'Irenarchi' performed similar duties. The provincial governor was formally commissioned 'to hunt out plunderers of temples, highwaymen, kidnappers and thieves and to punish them in accordance with their offense'. The grades of punishment were merely different forms of execution - to be thrown to the wild beasts, to be compelled to fight in the arena or merely to be cut down and left by the roadside for the anatomical studies of a curious Galen. The recognition by the government of its duties in repressing brigandage is simply another indication of its desire to make its road system of the greatest possible value.

1 Dig. I. 18.13.
Now at length our wanderings near a close — the last milestone stands at our side, our slow and jolting carriage draws to a halt. We have traversed the many provinces of the great Empire from the sands of Arabia to the mountain fastnesses of Wales, from the northern banks of the Rhine and Danube to the bounds of the Sahara. We have watched the vast armies of workmen pushing their straight roadbeds through marsh and mountain and teeming city. The superintendents in charge have told us, though grudgingly, of the costs of building and of whence came the funds. We have tried out all the known carriages, have looked into the various travelling guides and kept a close watch on the milestones along the way. We even ventured to secure an official diploma and take a brief, swift ride in the Imperial Post. We have passed the night in the wayside inn and at each provincial border have paid our petty customs dues. As for possible highwaymen we have kept lighthearted, bearing in mind Juvenal's line. "Cantabit vacuus coram latrone viator."

Our way has passed through much fresh and interesting scenery, through much desert country too. But on the whole we have found a good deal of satisfaction in our journey, inasmuch as we have gained a clearer conception of how ancient trade moved, of how British lead reached the pipe factories of Rome, of how St. Paul carried his message to the peoples and of how the Roman administrative world was bound together by its road system.

1 Juv. I. 10.22
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