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Tingitana*

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STUDIES IN THE ROMAN PROVINCE OF

MAURETANIA TINGITANA

PART 1

THE GEOGRAPHY OF TINGITANA

A thesis presented for
the degree of Master
of Letters

by J.E.H.Spaul

Studies in the Roman province of Mauretania Tingitana

Part 1

The Geography of Tingitana

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PREFACE

This volume represents six years' study of the problems of Roman Morocco, and is submitted for the degree of Master of Letters. Throughout this period constant help and encouragement was received from my supervisor, Professor E.B. Birley; his advice was particularly helpful in writing section 10. I also have to thank M. Raymond Thouvenot, Director of the Antiquities Service of Morocco for allowing me to use his library, Dr. Miguel Tarradell, Inspector of Antiquities, Tetouan, for advice and help, Colonel Jean Baradez, M. Armand Luquet, and M.R. Poinciche for answering my questions.

The following abbreviations have been used,

CRAI Comptes Rendues à l'Académie des Inscriptions
BSA Bulletin de la Société des Antiquaires
PSAM Publications de la Service des Antiquités du Maroc

INTRODUCTION

The present study was originally stimulated by the work of Colonel Jean Baradez on the 'Fossatum Africae'; its scope was suggested partly by my own interest in, and partial knowledge of North Africa, and partly because some factors are common to both Britain and Morocco. Both provinces were on the edge of the Roman Empire and both are isolated (one by the Channel, and the other by desert), from the rest of that Empire. In addition there are a few names which recur; Suetonius Paulinus served in Mauretania before his appointment to govern Britain; and Aurelius Nectoreca, centurion in a vexillation from Britain, erected an altar to Mithras at Volubilis.

In the course of the project, it became apparent that the extent of Roman influence was of primary importance in assessing the interaction between the administration and the extra-provincial tribes. It was necessary to do a certain amount of ground-clearing before the outline of the province and its history could be seen. There were many topographic problems which had to be solved, not least of which was the whereabouts of the frontier. Further consideration led to the conclusion that a reassessment of the sources, if not biased by preconceived ideas, would be of value not only as a preliminary to studying the history of Mauretania Tingitana, but also as a basis for elucidating

the geography of other Roman provinces. The results of this reassessment can be seen in Index A, where many hitherto accepted identifications have been discarded as inaccurate.

The study of the Geography of Mauretania Tingitana began with Jacob Graberg de Hemso, who published at Genoa in 1834 his "Specchio geografico e statistico dell' Impero de Morocco". Many of this author's identifications seem ludicrous today, but it must be remembered that he was writing at a time when very little was known about the geography of Morocco. It was (except for diplomats and mariners captured by the Salley Rovers), a forbidden land; of those who did visit it, only the diplomats were sure of returning to their native land - and not many of them were interested in the geography of Morocco. One of them, however, John Windus, an English diplomat, was sufficiently interested to publish in 1725 a slim volume entitled, "A Journey to Mequinez, Residence of the present Emperor", in which he gives some account of the wonders of Ksar Pharaoun before the earthquake of 1755 demolished what was still standing. Another English diplomat, Drummond Hay, made some archaeological excursions into the northernmost parts of Morocco in 1842, but did not publish any account of his discoveries.

It was Charles Tissot who made the first serious study of Tingitanan topography. His book, "Recherches sur la

Géographie comparée de la Mauretanie Tingitane", was published by the Académie des Inscriptions et Belles Lettres in 1878, and contained details of the sites which he himself had visited. It is a measure of the debt which is owed to him, that so much of his work remains valid today, despite the passage of eighty years. It was he who identified many of the major sites, and his ideas were followed by other commentators, albeit at times blindly.

The preliminary reconnaissance of Tissot was followed by the excavations of Henri-Maximien-Cyprien Poisson de La Martinière at Volubilis, Lixus, Thamusida, Tabernae, Frigidis and Ain Chkour, from 1887 onwards. Also in the period before the establishment of the Protectorate, was the work of Maurice Besnier who published his *"Géographie Ancienne du Maroc"* in 1904, in the first volume of *Archives Marocaines*.

The establishment of the Protectorate opened up Moroccan archaeology to the French. Under the patronage of Maréchal Lyautey, a Service of Antiquities was quickly organised under M. Louis Chatelain, who began in 1915 the excavation of Volubilis, which has been carried on every year since then. His successor, M. Raymond Thouvenot, began the excavations of Banasa in 1934 and these, too, have continued every year. The Service, (despite a shortage of funds in contrast to those devoted to Islamic

archaeology), has concentrated almost exclusively on these two sites. Occasional work has been done as at Sala 1930-32, Thamusida 1933-5, Sidi Aissa 1954-6, though never for long and often without publication of the results. The plans of Anoccur and Mechra Sfa which were announced in 1921 and 1926 have not yet been published, and may indeed be lost.

In the North or Spanish Zone, excavations at Tamuda which were begun in 1940, have been continued annually, while sporadic excursions were made to Lixus, Tabernae and Dchar Djedid. Under Sr. Don Miguel Tarradell, however, more specific excavations have been conducted at certain places, with a view to determining the nature and length of occupation. This has resulted in a remarkable increase in the knowledge of the ancient history of Morocco.

M. Chatelain's last work, "Le Maroc des Romains" (published in 1944), is an expanded version of his survey, "Les Centres Romains du Maroc," published in Fascicule 3 of the "Publications de la Service des Antiquités du Maroc", and suffers from an over-emphasis upon M. Chatelain's chef d'oeuvre, the excavation of Volubilis. Mme. Raymonde Roget-Coeytaux's "Index de Topographie Antique du Maroc" published in Fascicule 4, is unfortunately incomplete. Although it is based on her father's work, "Le Maroc chez les Auteurs Anciennes", she mentions only 113 of a possible

200 names, and many of her suggested identifications are not supported by the evidence.

In the twenty years that have passed since the last Index, the great work promised by Don Cesar de Montalban has not appeared, but the Junta Superior de Monumentos have published several works on the Spanish Zone, and many more have been published by the Service des Antiquités. A reassessment of the topography of Mauretania Tingitana is therefore due, and this is the primary purpose of the present study.

THE GEOGRAPHY OF MOROCCO

The kingdom of Morocco may be envisaged as taking the form of a quadrilateral lying between the 28th and 36th parallels of latitude North, and between the 2nd and 11th meridians of longitude West of Greenwich. Two of its sides, the Mediterranean coast including the Straits of Gibraltar, and the Atlantic coast, are natural boundaries; but the other two, the Algerian frontier and the Sahara are neither natural nor precise. Each side of this quadrilateral is symbolic of Morocco. The Algerian frontier is merely a political limit; the relief, climate, people, products, and customs are similar on either side. Morocco therefore cannot be considered except in relation to the rest of North Africa. The Sahara, into which all North African countries dissolve, brings Morocco into contact with equatorial influences. The Atlantic influences Morocco climatically, but its proximity did not breed a race of seafarers. The Mediterranean, though its climatic influence is less, brought Morocco into contact with the Ancient World. The Straits of Gibraltar, while separating the two continents, are narrow enough to bring the two into contact. Morocco is therefore a country of contact; between Europe and Africa, between North and South Africa,

and between Algeria and the Atlantic. The historical influences which have made present-day Morocco have come from all sides, North, East, South and West.

In its geological structure, Morocco shows these influences at work. The northern area consists of the most southerly part of the Alpine system, the Rif, detached from the main chain. To the south are the great platforms of the Old African land. Between these two areas, there flowed at one time an arm of the sea. The tertiary folds of the High Atlas form the southern edge of the plateau and the northern limit of the Sahara. Some of its subsidiary folds are worthy of consideration on their own, the Middle Atlas and the Anti-Atlas. These are the broad lines of the geography of Morocco, but the pull of Europe or Africa has so affected its formation that it may be divided into the following major natural regions.

1. The Eastern Block. The area between the Kert and the Moulouya is a primary table land rising from 1,000 metres in the North to 1,800 metres in the south. It is rich in minerals but not in arable products.

2. The Central Rif. This very heavily folded area, with peaks of over 2,000 metres, is semicircular in shape, centred on the bay of Alhucemas and stretching from the mouth of the Oued Kert to Punta Pescadores. From its very nature

it is rugged and unsuitable for arable farming. The tribes in the area are nomadic, in that they are not urbanised, but their wanderings are confined to their own valleys.

3. The Southern Hills. An enlargement of the Rif system, this region is less rugged in character, though its peaks rise to over 1,000 metres. It is drained by the Oued Ouergha and its tributaries, and in consequence, some settled agriculture is possible in the narrow valleys. On the whole it is not a productive area.

4. Northern Region. This area from the Punta Pescadores to the Straits of Gibraltar, is the northerly prolongation of the Rif system. Two Mediterranean rivers, the Oued Lau and the Rio Martin cut across the general trend of the country, and their upper reaches form a corridor behind the main peaks which leads into the plain of the Oued Loukkos, and thence to the Atlantic. Thus while not important agriculturally, the area provides a number of routes from the Mediterranean to the Atlantic.

5. The Plain of the Sebou. This area, which was once a marine gulf, is now occupied by the meanderings of the Oued Sebou. For the most part it is flat, alluvial land, eminently suitable for large scale crops. Intensive irrigation of the lower plain, today, permits the growth of rice

and sugar as well as the more common wheat and barley. Further east, the valley is occupied by large vineyards, from which some of the finest Moroccan wines are made. But it is not all flat land, for on the northern and eastern sides are ridges of folded mountains, outliers of the Rif system, which break the monotony of the scene. To the east, the plain prolongs itself into the Taza corridor, which provides easy access to the plain of the Moulouya and thence to Algeria.

6. The Meseta. This is the remains of the old table land of Africa. It stretches along the Atlantic coast from the mouth of the Oued Sebou to the western end of the High Atlas. It has been washed over many times by the sea which has left sedimentary deposits behind it, in particular, huge fields of high grade phosphates. More remarkable still, is the series of platforms formed by marine action. The most noticeable is the Settat step, which forms a continuous cliff about 200 metres high from the Oued Bou Regreg to Mogador separating the sub-Atlantic zone, the Chaouia, from the Rehamma, a plateau. A further subdivision is provided by the Oued Tensift which conveniently separates the Rehamma from the Haouz, a red, dry plain. In the Chaouia and Rehamma, the cultivation of grain has been undertaken on a large scale, while nearer the Atlantic, fruits tend to predominate.

7. The High Atlas. This area of heavily folded mountains with peaks of over 4,000 metres is not intensively populated, though a number of tribes have settled in the well watered valleys on the Northern slopes.

8. The Sous. Between the High Atlas and the Anti-Atlas is the valley of the Oued Sous, which enjoys an almost tropical climate where bananas can be grown.

9. The Anti-Atlas. Although some of the peaks are over 2,000 metres, the Anti-Atlas is for the most part a semi-desert with intermittent drainage, sparse vegetation, and a nomadic population.

10. The Sahara. There are a few large oases, in particular the Tafilalet, in this arid sandy area.

11. The Middle Atlas. Luxuriant forests of cedars and oak are the main features of this well watered range. The abundant rainfall provides the inhabitants with good pasture for stock-rearing, and they also practice a limited agriculture.

12. The Jurassic plateau. It lies between the Middle Atlas and the plain of the Sebou; vines and olives are grown in the valleys and herds are pastured on the slopes.

13. The Moulouya basin. The Middle Atlas, by preventing the

Atlantic winds from reaching the valley of the Moulouya, reduces the conditions of life in the basin to that of the Algerian tell rather than the Moroccan meseta.

14. The Tell. Physically this region is part of Algeria, for it is dependent on the rain-bearing cyclones of the Mediterranean for its water.

It is against this background that the ancient geography and history of Morocco must be considered.

Map to illustrate the Natural Regions of Morocco.

The map is drawn from the Third Edition Army/Air style map of North Africa on a scale of 1:2,000,000.

The regions are numbered as follows:

- | | |
|------|--------------------|
| I | Eastern Block |
| II | Central Rif |
| III | Southern Rif |
| IV | Northern region |
| V | Plain of the Sebou |
| VI | Meseta |
| VII | High Atlas |
| VIII | Sous |
| IX | Anti-Atlas |
| X | Sahara |
| XI | Middle Atlas |
| XII | Jurassic Plateau |
| XIII | Moulouya basin |
| XIV | Tell |

THE SOURCES FOR THE GEOGRAPHY OF TINGITANA

The most convenient collection of source material relating to Morocco is that compiled by M. Raymond Roget. In his book, "Le Maroc chez les auteurs anciens", he gives the ancient texts, together with a translation into French. This work provides admirable comparative material for translations, and it has been extensively used by the present writer. Unfortunately M. Roget adopts a chronological order, which while it has its own logical value, takes no account of the intrinsic value of the sources.

There are three broad groups of source material. The most useful are those which are based on first hand information. There is, unfortunately, only one such source for Morocco, the Antonine Itinerary, and this forms the basis of the investigation. It can be taken quite literally, for it sets out to give the most important roads of the province, the towns or halts along these roads, and the distance between these places. Where the road system has been traced, or where sites have been named by excavations, the Antonine Itinerary provides the skeleton for the ancient geography of the province. For Morocco the skeleton is rather bare.

The second group of sources are those based on second hand information, works made from others' accounts, and

which vary according to the credulity of the author. Of these the most reliable is that of Claudius Ptolemaeus, an Alexandrine astronomer. Ptolemy's Geography is a gazetteer of the then-known world. It gives co-ordinates of latitude and longitude for the main towns of each province, as well as the capes and bays of the coastline. It would appear from Section 5 of this work, that Ptolemy checked his information as carefully as the composer of the Antonine Itinerary, and for this reason, his work is considered after the official source (in Sections 5, 6, 7, 8).

Although the Anonymous Geographer of Ravenna compiled his Cosmography uncritically, he was fortunate in being able to use a map which shows signs of having been made with an accurate knowledge of the road system and towns of the Roman Empire. In addition, his habit of listing everything, provides the longest list of town names. Section 9 is therefore devoted to Ravennas. Another compiler who worked from official documents was the writer of the Notitia Dignitatum. His meagre but very interesting material is discussed in Section 10. The Elder Pliny was a most prolific writer, but he was not primarily concerned with the geography of the world, and he is not, therefore, as exhaustive as the others. Nevertheless he was a most critical writer, who valued his sources as well as reported them. The part of his Natural History devoted to Morocco

and the Atlas mountains is discussed in Section 11. The proper geographers follow next. Pomponius Mela's work is discussed in Section 12, since he had more chance than Strabo, his near contemporary, to observe Morocco. Strabo's work is discussed in Section 13.

The third group of sources comprises works which deal primarily with other matters, but which provide some more details. The first of these authors is Hanno, whose voyage was directed at the west coast of Africa, and who mentions Morocco on his way. The following section, 15, is concerned with the sailing directions of Scylax, about whose authenticity there is some dispute. Lastly there are some early writers of whose work only fragments remain. Their information is discussed in Section 16. Orosius, Cassius Dio, Herodotus, Vitruvius, Pausanias and Plato, who are quoted in M. Roget's book, are concerned more with the Atlas than with Morocco, and on that account are omitted from this work, as are the plagiarists.

Such then are the sources upon which this study is based. The results would have been better if the Peutinger Table had not been burnt, or if the road system had already been traced on the ground. Only four sites have yielded epigraphic evidence of their names; Tingis lies under Tangier, Volubilis used to be called Ksar Pharaoun, Banasa lies around the marabout of Sidi Ali bon Djenoun, and the

Islamic mosque known as Chellah was built over the ruins of Sala. This is meagre evidence on which to construct a geography, and the need for field-work on the road system will become apparent as the study proceeds.

THE ANTONINE ITINERARY

According to Denis van Berchem (B.S.A. Mémoires LXXX p.117-202 "Annexe Militaire") the Antonine Itinerary is not simply a list of routes used by the Imperial Post, but a compilation made by the Quarter-Master-General's department in the reign of Diocletian, of routes used for troop movements or grain-collection. It does not, therefore, expressly indicate the route by which imperial communications reached provincial governors; but it does indicate that at some point during the third century, either a body of men was moved along a particular route, or that a caravan, collecting supplies of grain to feed the army, travelled between these specific points. It does not pretend to be an exhaustive list of all the roads but, generally speaking, the routes given in the Antonine Itinerary are the main routes, and indicate the essential framework of the road system of the province.

The translation which follows is taken from Otto Cuntz' edition of "Itineraria Romana I" (1929). Technical terms e.g. flumen, colonia, promunturium, insula, and numbers, have been translated by the English equivalent, and the Latin names given in the nominative case. Two names have been expanded.

Here begins the Journey

of the Provinces of Antonius (sic) Augustus.....
Of the Province of Africa, from Tingi of Mauretania
which is where the barbarians, Bacuates and Macenites
live, along the shores as far as Carthage. From the
Outpost which is called Mercurios as far as Tingi
is 174 miles. As far as Russader is 318 miles, as
far as Caesarea of Mauretania is 423 miles.....

From these sites; from Mercurios is 174 miles....

to Sala, a colony, is	16 miles
to Thamusida is	32 miles
to Banasa is	32 miles
to Frigidis is	24 miles
to Lixus, colony, is	16 miles
to Tabernae is	16 miles
to Zilis is	14 miles
to Mercuri(i templum) is	6 miles
to Tingi, a colony, is	18 miles

From Tingi by sea along the coast as far as the Divine
Harbours:-

to Septem Fratres is	60 miles
to Abila is	14 miles
to Aquila minor is	14 miles
to Aquila major is	14 miles
to Cape Barbitus is	12 miles
to Tenia Longa is	24 miles
to Cubucla is	24 miles
to Parietina is	24 miles
to Promontory is	25 miles
to the Six Islands is	12 miles
to Cape Cannae is	30 miles
to Cape Russadas is	50 miles
to Russader, a colony, is	15 miles
to the Three Islands is	65 miles
to the River Malva is	12 miles

The River Malva separates the Two Mauretaniae
and here begins Caesariensis.....

Another route runs from Tocolosida to Tingi,
for a distance of 148 miles:-

to Aquae Dacicae is	16 miles
to Volubilis, a colony, is	4 miles
to Gilda is	12 miles
to Vopiscianae is	23 miles
to Tremulae is	19 miles
to Oppidum Novum is	12 miles
to Novae (Tabernae) is	32 miles
to Mercuri (i templum) is	12 miles
to Tingi, a colony, is	18 miles

As usual, the Antonine Itinerary begins its survey of the routes of Africa with some long-distance figures, which are detailed in the Itineraries which follow. The first of these runs from the Outpost of Mercurios to Tingi, and the second and succeeding ones run from Tingi to Carthage. Lastly, there is a non-coastal road from the interior to Tingi. Even if its name was not already proved, the fact that it is the natural focal point for the roads of the province, in the same way that London is the focal point of the Roman roads in Britain, would be enough to identify Tingi with Tangier. There are three routes leading from Tangier, the first westwards along the Atlantic coast towards the Post of Mercurios, the second eastwards along the coast to the Divine Harbours in Mauretania Caesariensis, and the third inland towards the Middle Atlas. The second route is compared with Ptolemy's Geography in the next section, and is consequently omitted here. Each of the other roads is examined in relation to reported sites along its line.

Route 1. Tangier to the Outpost

Although the Antonine Itinerary runs from the Outpost towards Tangier, it seems preferable to reverse the order and move westwards away from the focal point. The order of places then becomes:-

18 miles	to	the temple of Mercury
6	"	" Zilis
14	"	" Tabernae
16	"	" Lixus
16	"	" Frigidis
24	"	" Banasa
12	"	" Thamusida
32	"	" Sala
16	"	" the Outpost of Mercurios
174 miles	in all.	

Since many of these names have been positively identified with places, it is not difficult to place the rest. Only two sites, Banasa and Sala, have produced epigraphic proof, but five more Roman sites have been located and given appropriate names. Mercury's Temple is the name usually given to the ruins of Dchar Djedid, 30 kilometres S. by E. of Tangier and 12 kilometres N.E. of Arzila. At Lalla Djellalia, near the junction of the modern roads from Tangier and Tetouan to Larache, is a grove of trees surrounding a quadrangular emplacement, which is identified as Tabernae. The colony of Lixus has been found on an isolated hill called Tchemmich, 4 kilometres N.E. of Larache. Frigidis is given as the name of another quadrangular enclosure at Soueir, which is situated

on the old border between the zones, about 6 kilometres from the coast. The town of Banasa lay on the south bank of the Oued Sebou, about 14 kilometres S.W. of Souk el Arba du Rharb. The remains upon which the marabout of Sidi Ali ben Ahmed stands, some 16 kilometres N. of Kenitra, are identified as Thamusida. The colony of Sala is shown by epigraphy to lie beneath the Islamic fortress known as Chellah, immediately to the South East of the city walls of Rabat. Only Zilis and the Outpost have not been found: Zilis, philologically, should be Arzila, but no traces were found in the building of the Spanish town, and the rectangular enclosure which Tissot saw south of Arzila has since been lost. The latest suggested site for the Outpost is the camp at Kalaat Rhamat, discovered by Colonel Jean Baradez in 1953 and reported in CRAI 1955 (pp.290-3).

Since so many of the places mentioned on this list are known or presumed, it is worth while considering the distances between them, and the gradients which the route might have taken. The distances given by the Itinerary are calculated amounts varying with the time taken to march the interval. It may be that the speed was four miles an hour and the time taken given in hours or half-hours. There can be no certainty that the Antonine figures will correspond with the actual distance. If the

Antonine interval is less than the crowflight distance, then either the Itinerary or the identification will be inaccurate. Something of this kind must have happened to account for the facts that Dchar Djedid is over 20 miles from Tangier and 9 miles from Arzila, instead of 18 and 6 respectively. Even if the road did not pass through Dchar Djedid, the figures in the Itinerary will not make sense as long as Zilis is identified with Arzila.

If on the other hand, the ruins of Dchar Djedid are identified with Zilis, the distances given by the Itinerary will fit. The total of 24 miles allows 4 miles for gradients and curves. The road from Tangier must cross the Cuesta Colorado and on the pass through this range, is a possible site for the temple of Mercury.

From Arzila the modern road climbs steadily to 500 feet, where at 16 kilometres from Arzila, it is joined by the road from Tetouan, and the two descend for 26 kilometres to Larache. Lixus is some 4 kilometres north of Larache, and the distance from the junction is therefore about 15 Roman miles. The identification of Lalla Djellalia with Tabernae fits in with the course of the modern road as far as Lixus, and if the road from Dchar Djedid ran straight up the crest, the distance would just agree with the figures for the Zilis-Tabernae interval given in the Itinerary.

The colony of Lixus is beautifully placed on a hill just north of the Oued Loukkos, which at this point, meanders through a flood plain. How the road crossed this low-lying area is uncertain. The possibility that there was a bridge and causeway cannot be discounted, but there are no signs of one, and if it existed, it must be upstream in view of the position of the harbour and port installations of the town. A bridge of boats would have to be in the same area, but a ferry could operate downstream from Lixus, landing its cargo on the southern bank by the modern town of Larache.

South of the river, the modern road runs for 8 kilometres along a ridge some 80 to 150 feet above sea-level, before turning inland to Alcazarquivir. Soueir, the most probable site of Frigidis, lies some 15 kilometres from the bend, giving a total of 23 kilometres from the south bank of the Oued Loukkos, which corresponds to the 16 miles given by the Itinerary.

Despite the accuracy of the last interval, the next is underestimated. The distance between Banasa and Frigidis is given as 24 miles, but the two sites are separated by 45 kilometres, the equivalent of 30 miles. The direct line, however, is easy for marching. Descending gently from Soueir to the wide valley of the Oued Drader, the road then climbs through a gap in the range

of 300 feet hills, and descends to the flood plain of the Oued Sebou, crossing the river by a ford close to Banasa. There is very little climbing, and a journey which should take $7\frac{1}{2}$ hours, might well be done in 6 hours.

The distance between Banasa and the ruins of Sidi Ali ben Ahmed, 16 kilometres N.E. of Kenitra, is 46 kilometres, which corresponds closely to the Antonine distance of 32 miles. There is no reason to doubt the identification with Thamusida. The road ran along the south bank of the Oued Sebou, avoiding its bends; it is flat and easy to march along.

From Thamusida, the Forest of Mamora stretches southwards as far as the Oued Bou Regreg, on whose southern bank stands the colony of Sala. There are two possible routes: one through the forest, up the Oued Fouarat, and along Kalaat Rhamat to Mechra el Mdez (a ford 6 kilometres S.E. of Sala), is 50 kilometres in length; the other round the western end of the forest, following the course of the present road and crossing the Oued Bou Regreg by a ferry, is 46 kilometres. The Antonine figure of 32 miles is slightly less than the first and slightly more than the second. The route round the end of the forest is probably the later of the two roads, and the one referred to by the Itinerary.

There remains only the last stage, to the Outpost called Mercurios, which is 16 miles from Sala. Many sites have been suggested for this station. There is a rectangular enclosure at Dchira which was the likeliest possibility for many years, until excavation proved the enclosure to be that of an early Islamic Mosque. The camp at Kalaat Rhamat reported by Colonel Baradez is the right distance from Sala, but it is possible that he is referring to a platform made by Canadian forces during the invasion in 1943. The Outpost is still to be found.

Route 3. Tingi to Tocolosida.

Reversing the order of places given in the Itinerary results in the following list:

18 miles to Mercury's temple

12	"	"	Novae (tabernae)
32	"	"	Oppidum Novum
12	"	"	Tremulae
19	"	"	Vopiscianae
23	"	"	Gilda
12	"	"	Aquae Dacicae
16	"	"	Volubilis
4	"	"	Tocolosida
148	"		from Tingi

Of this list of places, only Volubilis is confirmed by epigraphic evidence, although a tile made at Gilda has been found at Ferme Priou near Sidi Slimane. There are seven known Roman sites which may or may not be situated on this road, Dchar Djedid, Arbaoua, Souk el Arba du Rharb, Castrum Ulpium, Mechra Sidi Jabeur, Ferme Priou and Tocolosida.

The presumed identification of Dchar Djedid with Mercury's Temple has already been discussed, but there is one more consideration to be mentioned here. From the evidence of the Itinerary, Mercury's temple is a road junction, and this suggests that a consideration of the position of possible road junctions is advisable. Dchar Djedid is an unlikely road junction, for there is only one road southwards, Sidi Nasar on the other hand is

more probable, since from the crest of the pass where it stands, one road would lead south westwards towards Dchar Djedid over a spur, while the other road would run south eastwards to another crossing of the Oued Hachef. The real trouble with Dchar Djedid as a road junction is that the roads, which are supposed to join there, could much more conveniently have met further south in the region of Lalla Djellalia.

From Sidi Nasar, the road runs due south down the valley, along the western side of a spur to a prominent headland overlooking the Oued Hachef, which it crosses as it comes out of a defile, and along the western valley-side of the Oued Kharroub until it arrives at a wide level valley bottom which is now extensively cultivated as it is watered by numerous tributaries. This is a focal point for the upper valley of the Oued Kharroub where a collecting station could be usefully sited. Here, 18 kilometres South by East of Sidi Nasar, is where one should find Novae (Tabernas).

From there the road runs over undulating country to the west of a ridge of 1500 feet peaks, crossing two minor rivers before it reaches the Oued Loukkos. The next place on the Itinerary, Oppidum Novum, should be a crossing of the Loukkos and the usual suggestion, which there is no reason to dispute, is Alcazarquivir, where

the railway to Tangier crosses the river. There are subsidiary roads leading northwards into the undulating country, and westwards up the valley of the Loukkos into the hills. The probability that this town is indeed the Oppidum Novum of the Itinerary, is strengthened by the fact that a mutilated Roman inscription has been found there, and there are many traces of occupation in the surrounding district.

The obvious road southwards from Alcazarquivir runs through the Arbaoua gap, where the chief customs post between French and Spanish zones used to stand. But although remains of fishponds have been found at Arbaoua, this is not likely to be Tremulae, as it is only 6 miles from the last ~~site~~ instead of 12 miles. On the other hand, the recently excavated settlement beside the marabout of Sidi Aissa near Souk el Arba du Rharb is too far, being 22 miles from Alcazarquivir. Somewhere between the two is another site waiting to be located; perhaps, as is often suggested, at Basra, which is an Idrissite palace, or at Mechra el Bacha, a ford on the Oued el Mda just north of Basra. Yet another possibility is a grove of aspens about 2 kilometres North-East of the ford.

Vopiscianae is another unlocated site 19 miles further on. It seems likely to be a crossing of the Sebou, and the most suitable ford is Mechra bel Ksiri, which is about 25 kilometres from Basra.

Sidi Slimane lies 36 kilometres south of Mechra bel Ksiri, but the chief difficulty in recognising Sidi Slimane as Gilda was the opinion, prevalent until 1953, that Aquae Dacicae, the next site, was near Ain el Hamman, which is more than the Antonine interval of 12 miles from Sidi Slimane. The recent discovery by Colonel Jean Baradez of a camp which he calls Ulpium, provides an alternative route for the Itinerary and identifies Gilda with Ferme Priou, a site in the neighbourhood of Sidi Slimane. It is certain that Ulpium is 16 miles from Volubilis; unfortunately it is also 18 miles from Sidi Slimane and cannot therefore be Aquae Dacicae. Its existence indicates that the massif, upon which it stands, was used by the Romans. It would have little purpose unless it were covering another site. Aquae Dacicae is probably Moulay Yacoub, which is 18 kilometres from Sidi Slimane and 24 from Volubilis, and lies in a cleft in the range which borders the flood-plain of the Sebou on the south, through which runs the modern road from Sidi Slimane to Meknes.

From Moulay Yacoub, the road rises still higher as it crosses the Bled Arrouch at a height of about 1600 feet, whence it drops down to the valley of the Oued Rdom. The location of the ford is uncertain, but it seems that it was overlooked by "camp de l'épèron barrée" which was also discovered by Colonel Baradez in 1954. The road

probably ran along the northern slope of the promontory on which the camp stands, climbing slowly to the level plain at the further side of which stands Volubilis, the ruins of which were called Ksar Pharaoun or Oualili by the earliest visitors.

At the southern edge of this plateau within sight of Volubilis is a rectangular enclosure which is known as Tocolosida. It has been excavated but no report has yet been published. It appears to be a cavalry fort placed so as to protect the numerous farms of the plateau from any raid from the south. It is less than four miles in a direct line from Volubilis, but it might well be an hour's march especially at the end of a long day.

Summary and conclusions

Of the three points which arise from a consideration of this document, two concern references to its purpose which were made earlier. It is more convenient to treat them here than to leave them to the historical section, though they will necessarily be mentioned again.

The order in which the two roads of the Itinerary are given, would suggest that if any troop movements took place at this period, the units were withdrawn from the forward positions to the port of embarkation. Tangier is the logical place for troops withdrawn from Tingitana to embark on their way to other provinces of the Empire. There is no evidence that troop movements did take place during the third century.

It is easier to visualise the other aspect of the Itinerary. Assuming that modern agricultural conditions are not unlike those in force during the Roman period, most of the places which have been identified would be suitable for collecting grain. Sala is on the northern edge of an area largely devoted today to cereal crops. It stands at or near a river crossing, and would be a natural focal point for collecting supplies from the South for transport across the river. Thamusida and Banasa lie on the very fertile plain of the Sebou, which is now extensively cultivated, even more so since the

marshes have been drained and irrigation canals provided. Thamusida and Banasa stand at opposite ends of the marshy area where supplies would be drawn. Thamusida could be also a centre for the collection and transport of cork from the cork-oak forest of Mamora, which lies just to the south. Gilda, Vopiscianae, and Tremulae, although their exact location is unknown, are certainly on the edge of the same plain and would provide (without stretching the imagination) convenient points for collecting local supplies. Volubilis and Tocolosida lie on a fertile plateau, well watered by streams from the neighbouring Djebel Zerhoun, which today produces large quantities of grain, although it is more probable that in Roman times, the production of olive oil was the chief concern of the inhabitants of Volubilis. Lixus and Oppidum Novum are at opposite ends of the flood plain of the Oued Loukkos, and provide convenient places for the collection of agricultural products as well as in the case of Lixus, various fish products. Novae (Tabernae), if it were in the upper valley of the Oued Kharrouch, would be an excellent centre for the collection of the cereals which this area certainly produces today. Zilis is largely buried beneath an extensive cornfield. The Outpost of Mercurios, Aquae Dacicae, Tabernae, Frigidis, and Mercury's temple, can be accounted for by strategic reasons.

The coastal itinerary of havens and harbours, would not seem to have been used for collecting grain, since the narrow valleys on this coast are unsuitable for any intensive cultivation of cereals. It may, however, be a list of places where grain could be exchanged for the local products, wine, oil, wool, fish, for this region is more suitable for sheep and trees.

As far as Tingitana is concerned, the Itinerary can be shown to fit the purposes for which it was compiled. Since the third century was not a period of expansion, it is natural for troop movements, if any, to be those of a withdrawal. The province, it appears, was a producer rather than a consumer area, though there is, at the moment, a lack of evidence for much storage. Apart from the huge vats at Lixus, and the oil tanks at Volubilis, there are only the cisterns at Dchar Djedid. These have been described as a bath-house or reservoirs, though they have no resemblance to the conventional bath-house of the Roman period and look more like settling tanks rather than reservoirs. They may, in fact, be granaries or storage vats. A search for granaries and similar installations is a project which might bear fruit.

Lastly, it is unfortunate that the Romans did not lay out the roads of Tingitana in their customary way. In the French zone, no traces of a paved road have been

found outside the towns, and only one instance of a paved road has been recorded from the Spanish zone. Furthermore, only one road has been traced on the ground, that from Salé to Bataille. According to M. Raymond Thouvenot (*Hespéris* XLIV 1957 pp.73-84), the track has been worn by constant usage into the shape of a shallow ditch and resembles the native tracks in this respect. The road system of Tingitana, which should accompany a study of the Antonine routes, is largely unknown and there is, in consequence, room for discussion and conjecture. Supposition as to the course of the road is easy, if one assumes that the Roman roads followed lines of easy communication, but there are certain difficulties. The existence of a ford is not proof that a Roman road crossed the river at that point; in the complete absence of any traces of Roman bridges, lies the justification for using important fords to suggest the line of Roman roads. There is much to be done, both in the air and on the ground before anything approaching the Ordnance Survey Map of Roman Britain can be made for Tingitana.

Map showing the places named in the Antonine Itinerary

The map is drawn from the Africa (Air) map on a scale of 1:500,000.

Atlantic road

Tingi	Tangier
Mercuri (i templum)	(Sidi Nasar)
Zilis	Dchar Djedid
Tabernae	Lalla Djellalia
Lixus	Tchemmich
Frigidis	Soueir
Banasa	Sidi Ali bou Djenoun
Thamusida	Sidi Ali ben Ahmed
Sala	Chella-Rabat
Exploratio	?

Inland road

Novae (tabernae)	(Oued Kharroub)
Oppidum Novum	Alcazarquivir
Tremulae	Near Basra
Vopiscianae	Mechra bel Ksiri
Gilda	Sidi Slimane
Aquae Dacicae	Moulay Yacoub
Volubilis	Ksar Pharaoun
Tocolosida	Tocolosida

THE NORTHERN COAST OF MOROCCO ACCORDING TO PTOLEMY'S
"GEOGRAPHY" AND THE ANTONINE ITINERARY

The "Geography" of Ptolemy is really an index of place-names, with their coordinates of latitude and longitude measured from the equator and from a prime meridian, which corresponds roughly with the 18th west of Greenwich. It was compiled from the accounts of travellers, and in particular from the materials collected by a certain Marinus of Tyre. Ptolemy's method seems to have been to construct a grid map and to insert his primary points which were fixed by astronomical observations; then by drawing a line from his fixed point equal to a distance given by his source material, he determined the coordinates of the second point to the nearest five minutes of a degree. Thus his maps indicate distance rather than direction, for he had to alter the orientation in order to make the distances accurate. In addition, the fact that he could not give the minutes in less than fives, means that there may be an error of up to 5 miles between two points, but this is only important where two places are close together. He used only one astronomically calculated point for his map of Morocco, namely Tangier, and this forms the starting point of the study of the coastlines as well as the interior roads.

Ptolemy's source material was either a description of journey by land, or an account of a sea voyage. The latter are less reliable than the former, for merchants and soldiers travelling at a known speed for a known time, can make a more reliable estimate of the distance covered than a sailor unaided by modern navigational instruments. Not only did the early navigators have to guess the effects of currents and contrary winds, but they had to take into account the diversions caused by reefs and promontories and the vagaries of their primitive instruments; small wonder therefore if the distances between coastal features are inaccurate.

In mapping the Mediterranean coast of Morocco, Ptolemy had to rely on the accounts of sailors. This coast is still bare and uninviting; the hills of the Rif chain come right to the edge of the sea; there is no coastal plain and settlement is only possible in the short valleys fed by small mountain streams. Even today there is no coastal road, and a coastal site must be approached through the mountains.

Fortunately, the Antonine Itinerary is in the same position as Ptolemy's source; it says expressly that the route is by sea. A comparison of these two accounts is therefore possible and fruitful. The translations which follow are made from Otto Cuntz's "Itineraria Romana I

5.3

(1929)" and Carl Muller's "Geographie von Claudius Ptolemaeus" Paris (1883).

The Antonine Itinerary

From Tingi by sea along the coast as far as
the Divine Harbours:

to Septem Fratres is	60 miles
to Abila is	14 miles
to Aquila minor is	14 miles
to Aquila major is	14 miles
to Cape Barbitus is	12 miles
to Tenia Longa is	24 miles
to Cubucla is	24 miles
to Parietina is	24 miles
to Promontory is	24 miles
to the Six Islands is	12 miles
to Cape Cannae is	30 miles
to Cape Russadus is	50 miles
to Russader, a colony, is	15 miles
to the Three Islands is	65 miles
to the River Malva is	12 miles

The River Malva separates the Two Mauretaniae
and here begins Caesariensis.....

Ptolemy's Geography Book IV Chapter 1 Section 3.

From the western end of this strait, after the
cape which we have mentioned come

Tingis Caesarea	E 6	30	N 35	55
the Mouth of the River Valonis	7	00	55	50
the town of Exilissa	7	30	35	55
the Mountain 'Septem Fratres'	7	40	35	50

and then the Spanish Sea, whose coast is described
thus:

Abila, the column	7	50	35	40
Cape Phoebus	8	00	35	30
Cape Iagath	8	20	35	5
the Mouth of the River Thamuda	8	30	35	00
Cape Oleastrum	8	50	35	10
Acrath	9	00	34	55
Taenia Longa	9	30	35	45
Cape Sestiaria	10	00	35	00
Rusadirum	10	00	34	45
Cape Metagonitis	10	30	34	55
Mouth of the River Molochath	10	45	34	45
Mouth of the River Malva	11	10	34	50

Before one can attempt a comparison between these two accounts, it is necessary to convert Ptolemy's figures into miles. Pythagoras' theorem is used to convert the coordinates into minutes of a great circle. In chapter 11 of his first book, Ptolemy accepts the conclusion of Marinus of Tyre that a degree of the 36th parallel of latitude is equal to 400 stades, which makes a degree of a great circle equal to 500 stades. These can be converted into Roman miles at 8 stades to 1 mile. Thus there were, according to Ptolemy, 62½ Roman miles in a degree instead of 75, which is the right amount.

This method works out as follows:- let (a) be the difference in latitude in minutes and (b) be the difference in longitude in minutes. Then, since at the 36th parallel, (which runs through the Straits), the ratio of longitude to latitude is 4 to 5, the distance (x) equals the square root of (a) squared and (4b/5) squared. (N.B. since the differences are always multiples of five, 4b/5 will always be a multiple of four.) For Example:-

Tingis Caesarea	6 30'E	35	55'N to
R.Valonis	7 00'E	35	50'N
(a) is 5'	(b) is 30'		

$$x = \sqrt{a^2 + (4b/5)^2} = \sqrt{25 + 576} = \sqrt{601} = 25' (+)$$

Taenia Longa	9 30'E	35	45'N to
Cape Sestiarra	10 00'E	35	00'N to

$$x = \sqrt{45^2 + 24^2} = \sqrt{2025 + 576} = \sqrt{2601} = 51'$$

The following table can then be prepared:-

Ptolemy's Geography			Antonine Itinerary		
Station	Distance from previous station in mins.	Distance from station miles	Cumulative Totals from Tingi		
Tingis					Tingi colonia
River Valonis	25	26	26		
Exilissa	25	26	52		
Septem Fratres	3	3	61	60	Septem Fratres
Abila	13	13	74	74	Abila
Cape Phoebus	13	13	87	88	Aquila minor
				102	Aquila major
Cape Iagath	29	30	117	114	Cape Barbitus
River Thamuda	13	13	130		
				138	Tenia Longa
Cape Oleastrum	18	19	149		
				162	Cubucla
Acrath	36	37	186	186	Parietina
				211	Promontory
				223	Six Islands
Taenia Longa	56	58	244		
				253	Cape Cannae
Cape Sestiaria	51	53	297	303	Cape Russadus
Rusadirum	15	16	313	318	Russader
Cape Metagonitis	26	28	342		
River Molochath	15	16	357		
				393	Three Islands
River Malva	21	22	379	395	River Malva

Before proceeding to the identification of the sites mentioned by these two authors, there are three points about the comparison of these two accounts to be discussed. In the first place it is worth noticing that both authors exaggerate the length of the straits.

There are two possible explanations. It would seem that to the ancients, the Straits of Gibraltar lay between the pillars, that is Gibraltar and Ceuta, and the town of Cadiz. Certainly when one is in the middle of the passage between Gibraltar and Tangier, one can, on a fine day see the whole of the Spanish coast from Gibraltar to Cape Trafalgar, but not the whole of the North African coast, for the town of Ceuta is to some extent hidden by the Djebel Moussa. Support for this view can be found in Ptolemy's account of the Spanish coast. From Book II Chapter 4, Sections 5 and 6 one can abstract the following:-

The cape where the strait begins on which stands				
Juno's Temple	5	45 E	36	5 N
.....				
Mount Calpe and the Columns of the				
Inner Sea	7	30 E	36	15 N

The calculated distance between these two points in a straight line is 88 miles which compares with the 93 miles between Cape Cotes and Abila. Ptolemy's account of the Straits is coherent, despite the fact that he has made the African coastline twice its proper length.

The alternative possibility is based on the fact that there is a constant two-knot current running eastwards through the straits. A merchant ship therefore which actually logged six knots would find its effective speed reduced by a third on its westward course. This would increase the time taken by half as much again. This westwardness would make the voyage from Gibraltar to Trafalgar which is actually 60 miles seem like 90. If the merchant ship's normal speed was only four knots, the forty miles of the African coast would seem like eighty.

The second point for discussion is at the other end of the coast. The Antonine Itinerary gives one river, and Ptolemy gives two rivers east of Russader (the modern Melilla). There seems to be an obvious discrepancy in the Antonine Itinerary. The Three Islands are the Islas Chafarinas, the almost submerged peaks of the continuation of the Quebdane chain which runs into the sea at Cabo de Agua, Ptolemy's Cape Metagonitis. But where Ptolemy makes the distance 28 miles, which is a little short, the Antonine Itinerary doubles the actual distance. It appears, therefore, that Ptolemy's Molochath and the Itinerary's Malva are the same river. But Ptolemy's Molochath should be the O. Mouloya, for this river is the longest river to enter the Mediterranean between Tangier and Carthage, and Ptolemy signals its presence in the

interior by giving the same name, Molochath, to a town in the eastern part of the province. The mouth of the Moulouya, however, is an insignificant feature in the coastline, barely five miles from Cabo de Agua. Some 20 kilometres east of Cabo de Agua is a much more prominent river mouth, that of the Oued Kiss, a smaller stream than the Moulouya, but with a more conspicuous entry into the Mediterranean, a protecting headland and a safe anchorage. It is probable that Ptolemy means this mouth rather than the one nearer Cabo de Agua. The explanation of Ptolemy's error is simple. He was working from two accounts, one of a merchant using the Taza corridor on his way from Caesariensis to Tingitana, who noted the presence of a large river flowing in a north easterly direction, and the other by a sailor who noted the presence of a safe anchorage near a river mouth 16 miles from Cape Metagonitis. Hence the correlation of two unrelated rivers and the attribution of the name to the unknown estuary. The error is quite natural. The courses of some rivers in England have only recently been ascertained. The R. Aire at Malham Cove is not the one that comes from Malham Tarn. We should not, therefore, decry the attempt of an Egyptian to define the course of a Moroccan river in the first century A.D. Instead of assuming that Ptolemy's figures are incorrect, it is more

considerate to credit him with a natural mistake.

Twenty-two miles east of the O. Kiss is the O. Tlata, a small river which nevertheless has a good harbour and a lighthouse at its mouth. This, rather than the Oued Kiss, is Ptolemy's Malva.

The Antonine Itinerary, however, compiled perhaps two hundred years after Ptolemy's informants had sailed along the coast, has more up to date information. It omits the mouth of the O.Moulouya, for that is not a safe anchorage for shipping and concentrates on the O.Kiss, which has a protected harbour. This, it declares, is the River Malva which divides the two Mauretanas.

Even so, the Itinerary follows Ptolemy in over-estimating the length of the straits. It does not, however, create quite the same unorthodox picture of the coastline which Ptolemy gives. The chief difficulty with Ptolemy's account has been the extraordinary position of Taenia Longa, set on a long headland reaching as far north as the parallel of the southern column of Hercules. The explanation is simple, if one accepts the accuracy of Ptolemy's information. From the account of his method of working, given earlier, it is clear that direction suffers at the expense of distance. Working from Carthage to Melilla, his stations were plotted fairly accurately for both distance and direction. But for the

stretch between Tangier and Melilla, he was confronted with the problem of fitting $4^{\circ} 59'$ of great circle distance into $3^{\circ} 30'$ on his map. We may suppose that he plotted the exaggerated length of the straits, and continued along the coast as far as the estuary of the R. Thamuda, (Rio Martin). Between there and Cape Sestiaria his problem became more acute. There was $2^{\circ} 41'$ of great circle distance to fit into $1^{\circ} 30'$ on the map. This can only be done by putting one to the south between the other two to the north. Hence, Cape Oleastrum projects northwards, Acrath is placed in a deep gulf instead of on the open coast, and Taenia Longa is at the end of a long promontory. The accompanying maps show first, Ptolemy's coastline, and second a corrected version, the straits being reduced by one half.

Having shown that the comparison of these two accounts has some value, one can turn with greater confidence to the problem of identifying sites, remembering that sailors from whose accounts Ptolemy compiled this version of the Mediterranean coast, were principally interested in safe anchorages for rough weather and hazards which they should avoid.

Working eastwards from Tangier, the first place which Ptolemy mentions is the anchorage at the mouth of the River Valonis, at a distance of 26 miles. Since the

intervals given by Ptolemy appear to be twice the real distance, this river should be the Oued el Lyam which flows into the Straits of Gibraltar, about 18 kilometres east of Tangier. The usual identification of the River Valonis is the Oued el Ksar some 10 kilometres further east, but this is a much smaller river and more difficult to pick out from the sea than the Oued el Lyam.

The town of Exilissa is as yet unlocated, but it is unlikely to be Belyounech in the Bay of Benzai. At this site an old ruined Portuguese tower is the most conspicuous feature, and there are no traces of Roman occupation. The bay, however, is a good anchorage, and is probably what Ptolemy meant by Septem Fratres, for the Djebel Moussa, a many-peaked mountain, rises immediately behind it. In addition, this bay is 11 kilometres (i.e. half 13 miles) from the point of Monte Acho.

Between Belyounech and the Oued el Lyam there are two possible sites for Exilissa, which should be 7 kilometres and 20 kilometres away respectively. Alcazarseguer, which is about 9 kilometres from Oued el Lyam and 19 from Belyounech, at the mouth of the Oued el Ksar, has produced evidence of Roman occupation, though not of the early period. Alternatively, 16 kilometres from the Oued el Lyam and 12 from Belyounech, is a small low platform at the mouth of the Oued er Rmel. This has not produced

any evidence of Roman occupation, but it is very difficult to reach from the interior. In default of any evidence from Plage er Rmel, therefore, Alcazarseguer is assumed to be the site of Exilissa.

Abila, the southern column of He^rcules, was a subject of much dispute among the ancients. It seems, however, that the best possibility is Monte A^hcho at whose foot nestles the town of Ceuta. No evidence of Roman occupation has been reported from Ceuta, and it may be that there was no harbour at this point, and that Abila was inserted into Ptolemy's account because it was the turning point of the voyage.

From Monte A^hcho to Rio Martin, like the Straits, the coast can be considered as a unit; it appears to suffer from the same defect. Ptolemy makes the total distance 56 miles which is equivalent to 84 kilometres: in fact the interval is barely 40 kilometres. One is justified therefore in ha^ving Ptolemy's distances over this section of the coast also. There would appear from his account to be three capes along this coast, whereas in fact there is only one, Cabo Negro, which is 8 kilometres north of Rio Martin. This then must be Ptolemy's Iagath and the Antonine Barbitus. Aquila minor and major cannot then be headlands, and must be outlying reefs which mariners are warned about. It is probable that Aquila minor (Ptolemy's

Cape Phoebus) was near Castillejos, and Aquila major near Restingua. The identification of the River Thamuda with Rio Martin is difficult to reject, for it fits Pliny's description so aptly.

From Rio Martin to Cabo Tres Forcas, the two accounts diverge to a considerable extent. This is due to the passage of time as well as to the differing reasons for the Geography and the Itinerary. The latter does not mention rivers, except the River Malva, which was the frontier, and the former had few towns to list. The Itinerary makes no mention of the River Thamuda, though this must have been one of the important rivers of the later period. Instead it mentions Tenia Longa, which may be translated as Long Beach. For six miles south of the Rio Martin, there stretches a long sandy beach on which have been found the remains of a Phoenician trading station at Sidi Abdesalam des Behar (see B.44). There is, at the southern end of this beach, a quiet cove sheltered from the south by the mass of Cabo Mazari, and it might be that at this point, the grain from the valley of Tamuda was collected for transport.

The next feature is Ptolemy's Cape Oleastrum which should by calculation be Ras Targa, the headland south of the estuary of the Oued Lau. About twenty kilometres further along the coast is Pointe Jaegerschmidt, (named

after a French Chargé d'affaires of the pre-Protectorate), and the site of Cubucla named in the Itinerary should not be far away. Unfortunately, neither of these places has produced any evidence as yet of Roman or Carthaginian occupation.

Both Ptolemy and the Itinerary agree that there is a settlement 186 miles from Tangier. On the present working this corresponds with Punta Pescadores, where some Roman remains have been recorded, and where there is also a reasonable anchorage. The Carthaginians called this Acrath, but the Romans changed it to Parietina.

Other accounts of the Itinerary are unable to fit the next three places given by the Itinerary into the map without shortening the intervals, since hitherto, Punta Pescadores has been suggested as Cubucla, and Alcala as Parietina. On this basis the usual identifications are Promontory - Punta de los Frailes, Six Islands - Alhucemas, Cape Cannae - Cabo Quilates; the distance between these three places is, however, only 25 kilometres, which is much too short for the 42 miles given by the Itinerary. Starting from the premise that Parietina was Punta Pescadores, however, is easier. The Promontory is Alcala, which is nearly 40 kilometres from Punta Pescadores (i.e. 25 miles). The Six Islands are the Alhucemas, but their position is given as that of

the cape immediately to the west - the distance is less than 5 kilometres. Some of the Alhucemas are little more than rocks, and it is probable that the settlement which faced these Islands was named for them. The settlement may possibly occupy the site of Villa Sanjurjo. From here to the Cabo Quilates is 50 kilometres, which compares with the 30 miles given by the Itinerary. Cape of Reeds is equally the translation for Cabo Quilates. In between the Six Islands and Cape Cannae, Ptolemy inserts his Taenia Longa. It may well be the same physical characteristics which give it this name as gave the name to the beach south of the Rio Martin. Without visiting the area, it is difficult to be certain that a long sandy beach exists, but from the configuration of the coastline this would seem likely.

Both accounts agree on the presence of an outstanding promontory about 300 miles from Tangier, and Cabo Tres Forcas is a very prominent navigational mark some fifty miles east of Cabo Quilates. There is no doubt that this cape is Ptolemy's Sestiaria and the Itinerary's Russadi - possibly the genitive of Russadus. The colony of Russader lies like Melilla, some 20 kilometres south of Cabo Tres Forcas. As the coast from Melilla eastwards has already been considered, it is only necessary to say that Cape Metagonitis is Cabo de Agua, and the

Three Islands are the Islas Chafarinas, that the Itinerary's R. Malva is the O. Kiss, that Ptolemy's Molochath should have been the Moulouya, and that Ptolemy's R. Malva is the O. Tlata.

The study of this coastline is hindered by the practical impossibility of visiting more than a very small stretch. There is no road which runs along the coast and the Occupying Power has been content to reach the sea from the main road which runs between the twin ranges of the Rif mountains. Archaeological exploration in this area has correspondingly been very scanty, and there is much field work to be done. In view of the difficulty of access, it is unlikely that any great increase in our knowledge of the Roman occupation of this coast will come in the next few years.

The comparison of Ptolemy's Geography with the Antonine Itinerary has a value beyond the present section, for having shown that Ptolemy's distances can be obtained from his index, and that these distances correspond with the facts, one can proceed to examine the rest of Ptolemy's work with an appreciative and trusting, though not uncritical, attitude.

Maps illustrating the Mediterranean Coastline of Morocco.

- A. A map drawn from Ptolemy's co-ordinates on a scale of two inches to $62\frac{1}{2}$ Roman miles or 1:1,880,000.
- B. A map drawn to the same scale, but with the distances along the Straits halved.
- C. A map drawn from the Third Edition Army/Air style map of North Africa on a scale of 1:1,000,000, showing the places mentioned by Ptolemy and their modern equivalents.
- D. A map drawn from the same on the same scale showing the places mentioned by the Itinerary and their equivalents.

THE ATLANTIC COAST-LINE ACCORDING TO PTOLEMY

The striking coincidence between the accounts of the Mediterranean coast prompts a similar attempt for the Atlantic coast, comparing Ptolemy's account with Pliny, since the Itinerary does not give a route for this coast. Such a study is doomed to failure as the second table in this section will show. The translation of Ptolemy's account is made from Carl Muller's edition (Paris 1883).

The Western boundary of Mauretania Tingitana is limited by the part of the Outer Sea which we call the Western Ocean. That part runs from the Straits of Hercules as far as the Grand Atlas and is thus described.

	E	N	diff	miles	total
Cape Cotes	6 00'	35 55'			
Mouth of River Zilia	6 00'	35 40'	15'	15'	
Mouth of River Lixus	6 20'	35 15'	38'	40	55
Mouth of River Subur	6 20'	34 20'	55'	57	112
Emporicus Gulf	6 20'	34 10'	10'	10	122
Mouth of River Salata	6 10'	33 50'	21'	22	144
Town of Sala	6 20'	33 50'			
Mouth of River Dya	6 10'	33 20'	30'	31	175
Little Atlas	6 00'	33 10'	13'	13	188
Mouth of River Cusa	6 40'	32 45'	41'	42	230
Port of Rusibis	6 40'	32 10'	45'	36	266
Mouth of River Asana	7 00'	32 00'	19'	20	287
Mouth of River Diur	7 20'	31 20'	43'	45	331
Mouth Solis	6 45'	31 15'	23'	29	360
Port of Mysocarus	7 20'	30 50'	36'	37	397
Mouth of River Phuth	7 30'	30 30'	21'	22	419
Cape Hercules	7 30'	30 00'	30'	31	450
Tamusiga	8 00'	29 55'	25'	26	476
Cape Ussadium	7 30'	29 15'	47'	49	525
Suriga	8 00'	29 00'	28'	29	554
Mouth of River Una	8 00'	28 30'	30'	31	585
Mouth of River Agna	8 30'	27 50'	47'	49	634
Mouth of River Sala	8 40'	27 20'	31'	32	666
Grand Atlas	8 00'	26 30'	59'	62	728

6.2

The details which follow are taken from Pliny's Natural History and will be discussed in their rightful place. The second column gives Polybius' figures, the third Agrippa's, and the fourth those of others including natives.

Ptolemy	Polybius	Pliny Agrippa	Others
-----	-----	Cadiz	-----
Cape Cotes	-----	-----	Cotes
River Lixus 55	Lixus	Lixus 112	Lixus 60
River Salat 89	-----	-----	Salata
Rusibis 122	-----	Rutubis 224	-----
River Asana 20	R.Anatis 205	-----	R.Asana 150
River Phuth 133	-----	-----	R.Fut
-----	-----	-----	Dyris 200
Suriga 135	-----	Surrentium 280	-----
Grand Atlas 174	Atlas 496	-----	-----
-----	-----	Theon Ochema 504	-----

There are certain correspondences between these four accounts. The fourth column deals in round figures, for they are hearsay estimates; nevertheless the Asana is about 150 miles from the Salat, and Dyris, if it be Cap Ghir, is roughly 200 miles south of the Asana. Agrippa's figures are multiples of 56; Rutubis-Lixus is 224 as against 211 from Ptolemy, Surrentium-Rutubis is 280 as against 288 from Ptolemy. Polybius' figures are unfortunately well out; Lixus-Anatis is nearer 250 than 205, though this may possibly be CCV instead of CCL, but Anatis-Atlas is not 496, (Ptolemy 442). Unlike Agrippa's, Polybius' figures cannot be broken down into fractions.

It seems clear that any attempt to stress similarities in distance is doomed to failure, but a comparison of

names may yield something useful. In the following table Polybius has been omitted

Ptolemy	Agrippa	Pliny
Cape Cotes	Cape Hesperis	Ampelusia
River Zilis	-----	-----
River Lixus	Lixus	Lixus
River Subur	(River Sububa)	-----
Emporicus Gulf	Sagigi bay	-----
-----	Mulelacha	-----
River Salat	River Salat	River Salat
River Dys	-----	-----
Little Atlas	-----	-----
River Cusa	-----	-----
Rusibis	Rutubis	-----
River Asana	-----	River Asana
River Diur	-----	-----
Mount Solis	Cape Solis	-----
Mysocarus (port)	Rhyssadir (port)	-----
River Phuth	River Quosenum	River Fut
Cape Hercules	-----	-----
Tamusiga	River Masatat	River Vior
Cape Ussadium	Mount Braca	Dyris
-----	River Darat	-----
Suriga	Surrentium bay	-----
River Una	-----	-----
River Agna	-----	-----
River Sala	River Salsum	-----
Grand Atlas	-----	-----
-----	River Bambotum	-----
-----	Theen Ochema	-----

It will be noticed that the degree of similarity lessens as the account proceeds southwards; as far as River Salat the similarity is marked; from the River Salat to Cape Solis less marked; thereafter very little. It seems best to divide Ptolemy's account into three subsections, and examine each by itself.

Sub-Section 1. Cape Cotes to the R. Salata

This first section is comparatively simple for it starts and finishes at fixed points about which there can be no dispute.

Cap Spartel, the northern limit of this section has been given many names, Ampelusia, Coteis and Cotes among them. The town of Sala which forms the southern fixed point is also indisputable, since an inscription has been found in the ruins of the Moroccan shrine of Chellah giving the name of the settlement as Sala. The table which follows differs from the preceding tables in giving the distances in kilometres.

Cape Cotes		
to the Mouth of the R. Zilia	23kms.	23 kms.
to the Mouth of the R. Lixus	45kms.	68 kms.
to the Mouth of the R. Subur	84kms.	152 kms.
to Emporicus Gulf	14kms.	166 kms.
to the Mouth of the R. Salat	33kms.	199 kms.
to the town of Sala	11kms.	210 kms.

Between Cap Spartel and the mouth of the Bou Regreg, which since it flows past the town of Chellah must be the R. Salat, there are according to Ptolemy, three prominent mouths which serve as landmarks for coastal navigation, and a gulf. Today, however, there is no gulf which a coastal mariner would call a gulf, for the coastline is mostly straight and consists of steep cliffs or sandy dunes, eroded or deposited by the action of the Canary current which sweeps southward from the Straits of Gibraltar. There are three rivers with prominent

estuaries which a coastal mariner could not fail to observe. They are the Rio Mharha, Oued Loukkos and Oued Sebou.

The intervals between these three river mouths (in order from Cap Spartel) are at the present day approximately 25, 43, 115, and 30 kms; Ptolemy's figures for the same intervals are 23, 45, 84 and 47 kms. As the difference between the totals of these figures (212 now, 199 Ptolemy) is only 14 kilometres or 7%, the general inference to be drawn from Ptolemy's figures can be accepted. There is however a serious discrepancy over the third and fourth intervals which deserves consideration.

The Mouth of the River Zilia is given by Ptolemy as 23 kilometres south of Cap Spartel. In fact 25 kilometres south from that cape is the estuary of the Rio Mharha, a river which, despite its short length of 50 kilometres, manages, together with its tributaries of similar length, to produce a wide and low-lying flood plain through which it meanders aimlessly, forming the boundary between the late International city of Tangier and the rest of Morocco. It cannot be easily overlooked as can the estuaryless mouths of the smaller streams nearer to the modern town of Arzila, one of which some modern writers have equated with 'Ziliae fluvius'. Furthermore these streams are too far from Cap Spartel to usurp the title which really belongs to the Rio Mharha. It might be argued that the

river, like the Salat, should flow near the town of the same name, but this argument is only useful when the location of the town is known. In this particular case the location of Zilis is not known, and although remains indicating a permanent settlement are said to have been found south of the modern town of Arzila, there is no evidence as yet to prove that the two towns occupy the same site. There is on the other hand, evidence of Roman and Carthaginian settlement on both banks of the Rio Mharha at its mouth and along its tributaries. Furthermore Ptolemy places the town of Zilis some 20 kilometres inland and not on the coast as is Arzila

The second river mouth mentioned by Ptolemy is that of the Lixus which is equated with the Oued Loukkos. It will have been noticed that the distances given by Ptolemy and the map agree on 68 kilometres. This, however, is a coincidence for the river has changed its estuary since Roman times and now enters the sea about 2 kms. south of its old mouth. This river like the other two, meanders through a flood plain and is confined on its northern side by a sand bar built up by the current. Its mouth, therefore, tends always to move southwards but it cannot progress any further without eroding the rocky spur of high ground on which stands the modern town of Larache. It is navigable for some distance inland and can easily be seen and identified from the sea.

The third river mouth is that of the Subur which should be the Oued Sebou. Ptolemy's distance does not agree with the present situation; there is a difference of 32 kilometres. It has been suggested that Ptolemy forgot to count in 10' in calculating the latitude but this would only amount to some 14 kilometres, which while it would be enough to correct his error over the whole distance from Cap Spartel to Oued Bou Regreg is not enough to correct this particular interval. There are two possibilities which could account for this error. The first is that Ptolemy has misplaced the Mouth of the R. Subur and the Emporicus Gulf. The coast between the mouths of the Sebou and the Bou Regreg is quite inhospitable and most unsuitable for trading vessels of any size to use for mooring, and equally unsuitable for trading stations, since there is behind this rocky coastline, a vast forest of cork-trees infested with wild animals. But likewise, the coast north of the Sebou is at the present time unsuitable for the trading stations which the name Emporicus' Gulf suggests. This stretch of sand dunes formed by the Canary current does not even resemble in shape an unstrung bow, much less a gulf or bay. This suggestion is obviously impossible; there is no gulf nowadays on the north of the Sebou and there can never have been one south.

The second possibility is almost certainly the right one, although there is at the moment no proof. The long

sandy spit which has already been mentioned is steadily encroaching on the estuary of the river and forcing it ever southwards. At its northern end, there is a small stream which occupies what appears to be the old mouth of the river, and is, in fact, called 'the old mouth' on some 18th century charts and landfall pictures in the National Maritime Museum at Greenwich. It was here that the river used to flow. Since then its mouth has been pushed 80 kilometres to the south. Presumably when Ptolemy's informant visited this coast, the mouth of the Sebou had moved some 50 kilometres. Like the Loukkos, its progress southwards is now hindered by the necessity of eroding the rocky coast south of Mehdiya.

Some distance upstream from the present mouth of the Sebou, the French have constructed a port capable of taking cargo vessels up to 100 ft. long and with a 12 ft. draught. The depth of water, even during the dry season, suggests that Port Lyautey stands on the side of an ancient gulf now mostly filled with the alluvial deposits brought from the Middle Atlas by the second largest river of Morocco. It might even be that further upstream the Roman town of Thamusida, which is now 20 kilometres from the sea at Mehdiya, also stood on this gulf. It would certainly be a gulf which coastal mariners could not miss, being some thirty kilometres wide and fifteen kilometres in length. The coordinates which Ptolemy gives, indicate

the southern edge of the gulf.

Lastly there is the River Salat, which, as has already been stated, is the Oued Bou Regreg. It is the correct distance from Mehdia. On the other hand, the distance of the town of Sala from the mouth is exaggerated. If Ptolemy's information does definitely antedate the Roman occupation, there is also the possibility of an earlier settlement being further upstream than the Roman town of Sala.

For this section therefore, the data given by Ptolemy is reasonably accurate. The action of the Canary current and the consequent changes, have made him appear unreliable.

Subsection 2. From the Mouth of the Salat to Solis

Both ends of this sub-section have a fixed point, one by archaeological evidence which has already been cited, and the other by common consent. It is always assumed that Cape Solis is Cap Cantin, largely because the coast at this point makes a definite and distinct turn to the south. Ptolemy's distances translated into kilometres are:

From the Mouth of the River Salat		
to the Mouth of the River Dya	42 kms.	
to the Little Atlas	18 kms.	60 kms.
to the Mouth of the River Cusa	57 kms.	117 kms.
to the Port of Rusibis	49 kms.	116 kms.
to the Mouth of the River Asana	27 kms.	193 kms.
to the Mouth of the River Diur	60 kms.	253 kms.
to the Mount Solis	39 kms.	292 kms.

The total distance given by Ptolemy is almost exact. The shortest distance between the mouth of the Bou Regreg and Cap Cantin is approximately 290 kilometres. Ptolemy gives river mouths at distances of 42, 107, 193, and 253 kilometres from Rabat. Unfortunately these figures do not correspond with present day conditions. The following rivers flow into the Atlantic today.

Name	Distance from Rabat	Length
Oued Yquem	20 kilometres	40 kms.
Oued Cherat	33 "	70 "
Oued Nefifikh	60 "	100 "
Oued Mellah	65 "	120 "
Oued Merzeg	105 "	20 "
Oued Haourara	145 "	20 "
Oum er Rbia	165 "	600 "

The discrepancies are obvious. Ptolemy is right over the total distance but wrong in between. The Oum er Rbia is obviously the Asana, and yet Ptolemy has it almost 30 kilometres west of its true position which is occupied by Rusibis. These discrepancies can be explained by considering his source material.

The River Dya is probably the Oued Cherat, which has a lagoon at its mouth, a fact which would be worth knowing in case of sudden storm. The next two names should change places. The River Cusa should be the Oued Nefifikh which enters the sea in the bay of Fedala, another safe anchorage. The Little Atlas in that case, might well be the Island of Sidi Abd er Rahmane, a religious sanctuary which can only be reached at low tide along a causeway. This is a Moroccan St. Michael's Mount, and could be a noteworthy feature. The port of Rusibis is probably the estuary of the Oum er Rbia, and the estuary of the Oum er Rbia, and the estuary of the Asana is, therefore, under the lee of Cap Blanc. At least this is where Ptolemy put it, perhaps because his informant could not give him the name of the river responsible for this delightful harbour. That there is no river would not be known to Ptolemy. He would therefore give the name, Asana, to this cove, since he already had one name for the mouth of the Oum er Rbia. The River Diur is another case of mistaken identity.

Ptolemy is obviously referring to the lagoon of Oualidia, a lagoon some 5 kilometres in length in which ships could shelter. Its length might suggest that it was an estuary, but there is no river.

To sum up, here is a table of identifications with the approximate distance from Rabat.

River Dya	35 kms.	Oued Cherat
River Cusa	60 kms.	Oued Nefifikh
Little Atlas	100 kms.	Sidi Abd er Rahmane
Rusibia	165 kms.	Azemmour (Oum er Rbia)
River Anatis	195 kms.	Lee of Cap Blanc
River Diur	255 kms.	Oualidia
Mount Solis	290 kms.	Cap. Cantin

Sub-section 3 From Cape Solis to the Grand Atlas

Unlike the other sections, this has only one fixed point, Cape Solis. The other end of the section has to be found by dead reckoning.

From Cape Solis		
to Mysocarus harbour	50 kms.	50 kms.
to the mouth of R. Phuth	29 kms.	79 kms.
to Cape Hercules	42 kms.	121 kms.
to Tamusiga	35 kms.	156 kms.
to Cape Ussadium	66 kms.	222 kms.
to Suriga	39 kms.	261 kms.
to the mouth of R. Una	42 kms.	303 kms.
to the mouth of R. Agna	66 kms.	369 kms.
to the mouth of R. Sala	43 kms.	412 kms.
to the Grand Atlas	83 kms.	495 kms.

Five hundred kilometres represents the distance between Cap Cantin and Cap Dra which is the southern limit of the Moroccan coast. Between these two points there are, according to Ptolemy, two headlands, Cape Hercules and Cape Ussadium, at distances of 121 and 222 kms. respectively. Cap Ghir (or Rhir) at approximately 225 kms. is obviously Cape Ussadium, but there are three possibilities for Cape Hercules, namely Cap Sim at 140 kms., the peninsula of Mogador at 120 kms., and Cap Hadid at 100 kms. approximately. Of these three, the peninsula on which stands the town of Mogador is the most suitable, for it provides a good anchorage protected from the south by an island where Juba established a dye works.

Between Cap Cantin and Mogador, Ptolemy records the names of a port and a river mouth. It would appear that Ptolemy's information about the intervening stations was inaccurate, for Safi, which has the best anchorage in this subsection, is scarcely 30 kms. from Cap Cantin, instead of 50 kms. Yet Safi must be Mysocarus, for the only river to enter the sea between Cap Cantin and Mogador is the Oued Tensift, whose estuary is about 35 kms. south of Safi,

Between Mogador and Cap Ghir, Ptolemy places a name, Tamusiga, without qualification. He does not call it a town or a port or a cape, and the coast in this subsection is featureless except for Cap Tafelney, and Cap Sim. If Ptolemy was not referring to either of these two headlands, that is, if the scribe did not omit the word 'promontory' in copying, it is most likely that the name Tamusiga should be given to some navigational hazard as, for example, a reef which could be seen at all states of the tide. Such a reef would deserve a name, not only as a warning of danger, but also as a help to navigation.

Between Cap Ghir and Cap Dra, Ptolemy gives the names of three rivers and one other place at distances of 39, 81, 147, and 190 kms. from Cap Ghir. The three most prominent streams on this section of the coast are the Oued Sous at 40 kms., the Oued Massa at 75 kms.,

and the Oued Noun at 200 kms. Unfortunately, the first name which Ptolemy gives, Suriga, is not qualified as a river or headland or harbour. Comparison with Agrippa's account, quoted by Pliny, reveals that the name of the bay into which the Oued Sous flows is Surrentium. Perhaps this is what Ptolemy refers to; Surrentium and Suriga may be equated. The Oued Massa or Masat is Ptolemy's River Una, and the Oued Adoudou, a much smaller stream is the River Agna. The Oued Noun is Ptolemy's River Sala, with which Agrippa's Salsum may be equated.

Thus Ptolemy's account comes to the southern boundary of Tingitana. It is not altogether as satisfactory as the Northern Coast, for there is no comparative material which can be used to check Ptolemy's information. The further south Ptolemy proceeds, the less his map resembles present conditions. Only the headlands can be accurately identified, and this is presumably because the source from whom the distances were abstracted was a sailor, who made a fast voyage from headland to headland, avoiding the bays as far as he could.

The Atlantic Coast according to Ptolemy

The left hand map is drawn from Ptolemy's information on a scale of 2 inches to 62½" Roman miles or 1: 1,880,000.

The right hand map is drawn from the Third Edition Army/Air style map of North Africa on a scale of 1:2,000,000.

The following table shows the identifications proposed in this study.

Cape Cotes	Cap Spartel
River Zilia	Rio Mharha
River Lixus	Oued Loukkos
River Subur	Oued Sebou
Merchant Gulf	
River Salata	Oued Bou Regreg
River Dya	Oued Cherat
Little Atlas	Sidi Abd er Rahmane
River Cusa	Oued Nefifikh
Rusibis	Azemmour
River Asana	Oued Oum er Rbia - Cap Blanc
River Diur	Ouzalidia
Cape Solis	Cap Cantin
Mysocarus	Safi
River Phuth	Oued Tensift
Cape Hercules	Mogador
Tamusiga	-----
Cape Ussadium	Cap Ghir
Suriga	Oued Sous
River Una	Oued Massa
River Agna	Oued Adoudou
River Sala	Oued Noun
Grand Atlas	Cap Dra

PTOLEMY'S INLAND TOWNS.

Section 7 of Book IV Chapter 1, is a list of the towns, in the interior of Morocco, which Ptolemy has abstracted from his sources. What these sources were is not known, but it is most likely that they are accounts of early trading journeys and the first military expeditions to be made in Morocco. There may even be an older stratum relating to the exploits of Bocchus I. The translation which follows is taken from Carl Müller's edition, and for convenience each town has been given a number which does not appear in the original text.

"7. These are the towns in the centre of Tingitana:

1. Zilia	6°	10'E	35°	30'N
2. Lix	6	45	34	55
3. Ospinum	7	30	35	20
4. Subur	6	50	34	20
5. Banasa	7	30	34	20
6. Tamusida	7	0	34	15
7. Silda	7	50	33	55
8. Gontiana	7	40	34	30
9. Baba	8	10	34	20
10. Pisciana	9	0	34	20
11. Vobrix	9	20	34	15
12. Volubilis	8	15	33	40
13. Herpis	10	20	33	45
14. Tocolosida	-	10	33	30
15. Trisidis	9	0	33	10
16. Molochath	10	10	33	5
17. Benta	9	30	32	50
18. Galapha	11	0	32	40
19. Thicath	8	30	32	30
20. Dorath	9	0	31	15
21. Boccana specula	9	20	29	50
22. Vala	8	10	28	15 "

This section is not difficult to understand, though it is hard to work back to the source-material. A glance at the co-ordinates of latitude for the towns 8 - 22, shows a gradual southing as though Ptolemy, having made his map, wrote down the names of the towns from the top to the bottom reading across the map. This does not apply to towns 1 - 7, and it would seem to suggest that the first seven towns are the earlier stratum, or the more important, or the more well-authenticated part of his list.

Comparison with the Itineraries of the Antonine List is not very helpful. On the first Antonine Itinerary are four towns on this list (nos. 1,2,5,6) and on the third, only three (nos. 7,12 and 14) for certain, and one (no.10) possible. There are fourteen other names which have to be fitted in somehow. In the absence of a comparable itinerary, it becomes necessary to invent one, if the method so far used to elucidate Ptolemy's information is to bear fruit in this instance. The last four towns on this list appear to be on a southerly route starting perhaps from nos.15 and 17. Nos.16 and 18 are the eastern termination of a route including nos. 8,9,10,11 and 13. The two left out (nos. 3 and 4) are in the north of the province, and might perhaps be included with one of the Antonine Itinerary routes.

The first Itinerary may well be compared with the Antonine version. There are many differences, not least of which is that the Antonine Itinerary has more stations. Between Tangier and Zilis, the Antonine Itinerary places the temple of Mercury, the two intervals being 18 and 6 miles. Ptolemy makes the interval 31 miles, which corresponds more closely than the Antonine Itinerary to the actual distance between Tangier and Arzila. In view of the arguments already put forward, this is no reason for identifying Zilis with Arzila, for Ptolemy's informant may well have taken longer to cover the distance than the third-century traveller did.

In the second stage of the journey, the Antonine Itinerary again has an extra site, Tabernae, which was 16 miles from Zilis and 14 from Lixus, Ptolemy's figure of 46 miles is half as much again as the Antonine Itinerary, and cannot be accounted for by the nature of the country, for it is quite easy to cross. It may not be a coincidence that the distance from Lixus to Gadir, given by Ptolemy as $111\frac{1}{2}$ miles, is a $\frac{1}{2}$ mile less than that recorded by Agrippa for the interval between Lixus and the Straits (Pliny Natural History V;i;9). The excess distance for the stage Zilis-Lixus given by Ptolemy, may be due to Ptolemy's belief in the accuracy of Agrippa's calculations in preference to those of less noble merchants. The name of Agrippa would be a sufficient guarantee, and Pliny who

was not uncritical of his sources, seems to have trusted him also. It is difficult to explain Ptolemy's error in any other way, or why he should place Lixus some 29 miles from the coast.

The Antonine Itinerary puts another extra place in the third stage from Lix to Banasa. It might be possible for Ptolemy's Subur to be equated with Frigidis, but this is not likely, for the name Subur indicates a position on the river of the same name, and Frigidis can never have been on the Subur in historic or proto-historic times. Ptolemy's distance of 52 miles is again in excess of the Antonine interval of 40 miles, but it will be remembered that the latter was a little short for the actual distance, and the former agrees better with the true distance of 70 kilometres, or 47 miles.

The fourth stage, Banasa - Thamusida has no intervening station in either source; the distance given, however, does not agree any the better for that. Ptolemy's distance is 6 miles shorter than the Antonine distance which, it will be remembered, was barely long enough for the actual distance. It is not easy to find a reason for this error.

For the last stage, on the other hand, it is possible to find a reasonable explanation for the discrepancy between the two distances given by Ptolemy and the Itinerary.

In the section of the Antonine Itinerary, two routes for this stage were suggested. One, through the Forest of Mamora, crossing the river by a ford south of Sala, was a little long for the Antonine route, and it seemed that in the third century, the normal road ran round the western end of the Forest crossing the Oued bou Regreg by a ferry or bridge near its mouth. Ptolemy's figure of 42 miles for this stage, is about five miles longer than the route through the forest, and eleven more than the western route. It seems, therefore, that in the first century the valley of the Oued Fouarat and the ford of Mechra el Mdez provided the line of communication between Thamusida and Sala, and that the Antonine Itinerary gives a third century route.

There is little correspondence, therefore, between the Antonine Itinerary and Ptolemy's Geography, and it would seem that Ptolemy was in the greater error. One of these errors can be accounted for and the others may be due to uncertain information. It is important to notice, however, that the route was not fully developed in the first century.

The second itinerary is not as easy to compare with the Antonine Itinerary, for there is very little of it. Only one of the five stations named by the Antonine Itinerary between Tangier and Silda, is mentioned by Ptolemy, and there is still some doubt about even this identification. Muller in his comments on the 'Geography' proposed to equate Ospinum with Oppidum Novum, but Besnier pointed out that, since in the episcopal lists there appeared the bishops of Oppidonebensis and Oppinensis, this equation was untenable (Roget, PSAM 4 pp.58-9). If Ptolemy's 'Geography' had been written after the Antonine Itinerary, it would have been natural to suppose that Ospinum was a debased and corrupted form of Oppidum Novum. It is not so easily credible that Ospinum should through the years have been corrupted into Oppidum Novum. On the other hand, Oppidum Novum does suggest that it replaces an existing town, and it may be that the replaced settlement was called Ospinum. The argument from the episcopal lists does not, however, hold water. It is very difficult to find much information upon the bishops of the Early Christian Church. On pages 463-470 of his "Series Episcoporum", (Ratisbon, 1873), P.B. Gams, O.S.B. gives the name of nine sees which he allocates to Tingitana - Bacanariensis, Benepotensis, Obbensis, Oppinensis,

Priscianensis, Sestensis, Subbaritanus, Tamadensis, and Tingariensis. There is also an Oppenensis in Byzancena and an Oppidenebensis in Caesariensis. Of the Tingitanan bishops only Priscianensis, Tamadensis and Tingariensis appear to have any similarity with names of an earlier period. In any case, the sees of Oppinensis and Obbensis may well be the same, for at no synod or conference were bishops from both these sees present. The case for identification is by no means proven, and in the absence of proof, it is safer to assume that the two sites were separate, and that Ospinum should be omitted from the itinerary. There remains only the southern end of the Antonine Itinerary.

The sector Tocolosida - Volubilis is the only one that can be seen as a whole, but the course of the road has not been proved by excavation. The distance between these two sites is less than that given by Ptolemy, but it must be remembered that it was very difficult for him to show places which were closer together than five miles, because of the gradations of his map.

The distance between Volubilis and Silda given by Ptolemy (26 miles) agrees closely with the Antonine interval of 28 miles. Even if the course of the first century road was not the same as that of the later road,

it is not difficult to suggest many routes between Volubilis and Sidi Slimane which would amount to 26 miles.

The real difficulty with this Itinerary is the question of how it joined the coast road. It is hardly likely that Silda was joined directly with Tangier for the distance would amount to 140 miles. Even the interposition of Ospinum would not make this road more probable. There are, however, two alternatives. Ptolemy's figures indicate that Silda was 31 miles from Banasa and 46 miles from Thamusida. Both these distances are reasonably close to the actual distance from Sidi Slimane to Banasa or Thamusida. It is slightly more probable that Silda was joined to Thamusida, for the area between Sidi Slimane and Banasa is very marshy and was probably even more difficult to cross in Roman times than it is now. The route from Sidi Slimane to Thamusida would, on the other hand, keep to the rising ground on the southern edge of the flood plain of the Sebou.

It will be seen from this account that the road system of the first century is not that of the Antonine Itinerary. It follows that the places which Ptolemy does not name, were not at this time on the trading routes of the province, and that Volubilis was in communication with Thamusida and the coast, rather than with Tangier. Further evidence of the growth of a road system will be

observed in the section dealing with Ravenna's Cosmography and in section 17 where all the evidence is discussed.

The third itinerary is entirely hypothetical, based on the premise that there was a route between Morocco and Algeria using the Taza gap. Two rivers flow from the gap; on the east the Msoun flows to join the Moulouya; on the west the Inanouene is the principal tributary of the upper Sebou. A second, but less vital premise, is that the most likely places for settlements of interest to a trader are at the junctions of river valleys. The only evidence that can be adduced, is the name Molochath. This is not the most easterly town for Herpis is 10' further east. But taking into account the lateral squashing of Morocco which has been already established, this is one of those sacrifices of directional accuracy which Ptolemy had to make. Since Herpis is at the apex of a triangle with Vobrix and Molochath, the base of which would be 91 miles, it is further postulated that the road runs from Molochath to Vobrix through Herpis. This situation seems to be reflected by Ptolemy's statement that only a part of the Herpeditani live in Morocco, a statement that will be referred to again.

But to return to the name Molòchath, it is barely conceivable that this name has only a coincidental connection with the river of the same name. To find a town and a river in the same area with the same name yet without any direct geographical proximity, is beyond the bounds of

likelihood. Molochath therefore is a town on the Moulouya. As the Romans did not extend the boundaries of the province beyond the 'useful triangle', there is no need to search for evidence of Roman occupation. Furthermore the barbarian quality of the name reflects the absence of a direct Roman influence, and suggests that Ptolemy's informant merely reported that at a crossing of the Moulouya there was a native settlement. One is therefore free to place this town anywhere along the banks of the Moulouya provided that it is in reasonable communication with the Taza corridor. Two sites are equally likely; one is the modern town of Guercif at the confluence of the Melloulou, and the other is at the confluence of the Msoun with the Moulouya. At the latter site there is no settlement, but the town of Guercif at the former site was noted in the 11th century by El Bekri, and according to Ibn Khaldoun, a convent was established there by the Mknassi around A.D.900. Whether there are any earlier remains is unknown. Guercif therefore is likely to be Molochath.

Herpis is 42 miles, or about 63 kilometres to the east of Guercif. It may not be a coincidence that the modern road from Guercif to Taza is 65 kilometres long. Certainly if the Taza gap was used, it is unlikely that there would not be some settlement in that important

position. Furthermore the presence of a section of the Herpeditani, cut off from their relations, would be consistent with such a position for Herpis. In the cliffs near the town are some caves, Khifane El Ghomara, which were occupied in the Palaeolithic period, and some graves have been discovered, which would appear to be of the pre-Islamic occupants. Herpis can, therefore, be located with confidence at Taza.

One would very much like to identify the remains discovered in rebuilding the bridge over the Oued Bou Hellou on the road between Taza and Fez, with the settlement of Vobrix, but these ruins are barely 40 kilometres from Taza, and according to Ptolemy, Vobrix was 59 miles away. Further down the Inanouene, from the Bou Hellou, near its confluence with the Oued Lebene, some palaeolithic remains have been discovered, and though these have little in common with a native site of the first century A.D., there is always the assumption that in hilly country, occupation tends to persist within a confined area. In addition, about six miles further on, the Inanouene itself flows into the Sebou. At such an important junction there should be a trading settlement, and it would appear that, as Vobrix is the nearest place-name, it should be at this confluence.

The Oued Sebou flows for a further 100 kilometres before it is joined by another major stream, the Oued

Ouergha. Somewhere along this stretch was situated the town of Pisciana. Perhaps it stood where the road from Fes-el-Bali to Fez crosses the Sebou. This road has been used during the Islamic period, and it may have been a trackway joining the two valleys of the Sebou and Ouergha. At any rate, the town beyond Pisciana could be calculated from Vobrix to arrive at the identification of Baba with the confluence of the Sebou and Ouergha. As will be shown later, Baba should properly be called Colonia Julia Babba Campestris, and this situation admirably reflects its cognomen. At this confluence, the road from Caesariensis ceases twisting along river valleys and emerges into the vast flood plain of the Sebou. In the vicinity of Khemichet, a French farmer discovered some Roman remains the nature of which has not yet been announced. Tiles and shards have been found in the river bank of the Sebou near Souk el Djemaa el Ahouafat, which is not far from the confluence, and in the course of building the railway, the foot of a bronze horse of a size comparable with those at Volubilis was discovered. This evidence points to an important settlement near the confluence, and should identify the site with Babba Campestris.

Gontiana was according to Ptolemy a further 26 miles from Babba, and Souk el Arba du Rharb is 40 kilometres from the confluence of the Ouergha and Sebou. Here

evidence of a permanent settlement at Sidi Aissa has been excavated; the latest report (CRAI 1956 p.310), calls it a large military camp.

The last two stations mentioned have brought the route into the area occupied by the Romans, and it now remains to discover how this route was joined to the other roads of the province.

There are several possibilities. Gontiana might be joined to Banasa or to Lixus, and Babba might be joined to Banasa or to Silda. Which of these possibilities is likely, will be seen from the following calculations:-

Gontiana to Banasa	13 miles)	
Gontiana to Lixus	52 miles)	
Babba to Banasa	35 miles)	Ptolemy
Babba to Silda	31 miles)	
Babba to Volubilis	41 miles)	
Souk el Arba to Banasa	17 kilometres)	
Souk el Arba to Tchemmich	60 kilometres)	
Khemichet to Banasa	45 kilometres)	Crow flight
Khemichet to Sidi Slimane	30 kilometres)	
Khemichet to Volubilis	45 kilometres)	

It will be seen that all these roads are possibilities, for in each case Ptolemy gives a distance in excess of the crow-flight. It is therefore possible to construct lines which might be taken by the roads, and which would account for the extra distance given by Ptolemy. The Gontiana to Banasa road may join the Babba-Banasa road near Banasa. Gontiana to Lixus, following the present main road, is 73 kilometres. Babba to Silda may run part of the way with

Babba to Volubilis. Khemichet to Petit-Jean is nearly 25 kilometres and Petit-Jean to Sidi Slimane is 22, making 47 which represents 31 Roman miles. Petit-Jean to Volubilis via the Bab Tisra is 23 kilometres, making 48 kilometres from Babba. In this connection, it should be noted that Pliny gives the distance Babba to Volubilis as 35 miles, which is nearer 48 kilometres than is Ptolemy's figure of 41 miles.

It now becomes possible to fit in Ospinum. This town is 52 miles from Gontiana, 45 miles from Lixus, and 61 miles from Tangier. The remains at Rhirha on the Oued Loukkos, happen to be 80 kilometres by road through Ouezzane from Souk el Arba du Rharb, 75 kilometres from Lixus through Alcasarquivir and along the south bank of the Loukkos, and 90 kilometres from Tangier via Souk el Jemis de Beni Aros and Dar Chaoui. It is unlikely that this route was much used by first century travellers, as it involves long distances without overnight stopping places, but the intrepid merchant would find it a convenient centre well away from the main areas of civilisation.

To reach Caesariensis from the Atlantic coast, there was therefore a variety of routes. From Tangier one could proceed either along a wild route through Ospinum to Gontiana and Babba, or along a more civilised road

through Lixus and Gontiana, or an even less turbulent way through Lixus and Banasa to Babba. From the south, the approach was from Volubilis direct, or through Silda from Thamusida and Sala, to Babba where the route began its long and tortuous journey up the Sebou and Inanouene, and then down to Msoun to Molochath on the Moulouya, and on to Galapha (possibly El Aioun) before crossing the boundary into Caesariensis.

The fourth itinerary is already partly established by M. Raymond Thouvenot, whose article "La Géographie Ptolémée et la route de Sous" (Hespèris XXXIII 1946 pp. 373-384) is the basis of this study. The towns of the southern group should lie along an ancient route known as the 'Triq es Soltan' which runs from Fez to Marrakech. M. Thouvenot also says that, when Ptolemy was aware that there were mountains on the route, he made allowances for this, and his distances are consequently shorter than the time taken for each stage would suggest. Thus a ten days' journey through mountains would appear as perhaps only five days on the flat, and the student is therefore justified in lengthening each stage of the journey. M. Thouvenot proposes the following identifications: Trisidis (which he equates with Ravennas' Sidilium) (i.v. 373) - Anocour, about 100 kilometres S.E. of Tocolosida; Thicath - Ain Lias, 102 kilometres S.W. of Anocour and 52 kilometres from Azrou. Dorath - El Ksiba, 106 kilometres S.W. of Ain Lias; Boccana specula - near Beni Mellal, 54 kilometres S.W. of El Ksiba; and Vala - Talaat N'Yacoub, 92 kilometres S. by W. of Marrakech and 286 kilometres by road from Beni Mellal.

This solution is unconvincing for two reasons. Firstly, it omits Benta, which Ptolemy puts 29 miles from Trisidis or 36 miles from Molochath. If it were not for the fact that every town south of Herpis (no.13

in Ptolemy's list) is south of its predecessor, it would be natural to connect Benta (no.17) with Molochath (no.16). But it is clear that Ptolemy, after Herpis, was not primarily concerned with the Caesariensis road, for Tocolosida and Trisidis come between Herpis and Molochath. Likewise Benta separates Molochath and Galapha. A second reason for including Benta in the Southern route is that, if it be omitted, Ptolemy's total distance is even less in agreement with the actual distance. It can be included because of the shape of Tingitana; just as Ptolemy had to reduce the Mediterranean coastline, so he had to reduce his interior roads, because his Atlantic coast trends South-eastwards instead of south-westwards. It is quite natural, therefore, to find an acute angle in his roads if he is to get the full distance into a radically shortened space. Secondly M. Thouvenot's interpretation falls down because Campus Rufus, which Ptolemy (IV; i; 5) places between Dorath and Boccana specula, and which is the Haouz or Red Plain of Marrakech, does not lie between El Ksiba and Beni Mellal, but between Beni Mellal and Talaat N'Yacoub. The latter place in any case is too far from the sea, and makes nonsense of Ptolemy's placing.

The solution proposed in this study is based upon the premise that Vala is near (less than 100 kms.) the sea and lies in the valley of the Oued Sous. This is

where Ptolemy's figures indicate that it lies. The most suitable site on the Oued Sous, the most ancient as well as the largest and most important, is Taroudant. In this area, if not at Taroudant itself, should the site of Vala be looked for. From Taroudant to Tocolosida via Marrakesh Azrou, and Meknes, is 717 kilometres according to the Michelin map. The mileage according to Ptolemy is 348, which is 516 kilometres made up as follows:

Tocolosida to Trisidis	38 miles	57 kms.	57 kms.
to Benta	29	39	96
to Thicath	51	76	172
to Dorath	82	123	295
to Boccana specula	53	79	374
to Vala	95	142	516

It follows therefore, that Ptolemy's distances must be increased by 40 per cent if they are to bear any resemblance to the actual route. Although it runs alongside the High and Middle Atlas, most of the route is relatively flat and easy, though there are some long climbs. Between Marrakesh and Taroudant it crosses the main chain reaching a height of 6,500 feet. Not all the intervals should be treated as equal. The first stage could not be called mountainous, and is probably accurate. The next stages, which are not mountainous though very near the mountains, are probably miscalculated by Ptolemy, but the last stage is, and was, mountainous and may therefore be accurate. None of the identifications proposed in this study is more than an indication of an area in which

if a pre-Roman site were found, a prima facie case for its name could be made out.

The first stage, Tocolosida to Trisidis, was probably known by Ptolemy to be fairly easy, and his distance of 57 kilometres is rather more than the actual distance between Tocolosida and the first escarpment of the Middle Atlas. One of the many road centres on this escarpment is likely to be Trisidis. Agourai, where Roman remains have been found, is the most western of these road gaps and should not be far from Trisidis.

The second stage, Trisidis to Benta takes in more mountainous country, but not necessarily broken and difficult country. The road does, however, pass from the headwaters of the Oued Beth to those of the Oum er Rbia, and it is on the pass that one would expect to find an important settlement guarding the crossing. Here perhaps near Ain Lias is where Benta should be, although it is some 60 kilometres from Agourai, instead of 40 kilometres.

The third stage, Benta to Thicath, is mostly downhill following the Trik es Soltan, which this route joins on the way to Ain Lias. The road follows the Oued Oum er Rbia as far as Kasba Tadla, crossing and recrossing the river many times. Possibly the last of these crossings is where Thicath stood. Kasba Tadla is 130

kilometres from Ain Lias and this is a little too far for Ptolemy's figures. Possibly El Ksiba, 22 kilometres upstream from Kasba Tadla, offers a better site for Thicath.

The fourth stage, Thicath to Dorath, runs south of the Oum er Rbia, and at 120 kilometres from El Ksiba it crosses the Oued el Abid, the most important tributary of the Oum er Rbia. Near Imdahane, therefore, is the probable site of Dorath.

The fifth stage, Dorath to *Boccana specula*, runs across the Red Plain of Marrakesh to the edge of the High Atlas. If Ptolemy thought that this was difficult country, his figure may well be extremely inaccurate. The actual distance by road through Marrakesh is 176 kilometres, but a straight line from Imdahane to Asni is barely 140; Ptolemy's figure is 79. The name *Boccana specula*, however, seems to indicate a watch-tower, perhaps one established by King Bocchus I, and the most probable site would be near Asni on the edge of the High Atlas.

The last stage, *Boccana specula* to Vala, is very mountainous. The present road twists and turns continuously for 100 kilometres and has over 1,000 bends. The Michelin map indicates a distance of 175 kilometres between Asni and Taroudant, which is just over 20 per cent more than Ptolemy's figure of 142 kilometres.

The crucial factor is the Red Plain which Ptolemy places east and slightly south of half way between Dorath and Boccana specula. In the proposed solution, the Red Plain appears over half way between Imdahane and Asni but west instead of east of the road; this is inevitable unless one is prepared to take greater liberties with Ptolemy's Geography than the present writer. There is no need to start with the premise that Vala is on the Oued Sous. Equally plausible hypotheses can be erected on other premises, but the identification of Vala with Taroudant seems to be the simplest way of deciphering Ptolemy's information.

The only town left out of these itineraries is Subur, which should stand on the river of the same name, 33 miles from Banasa. The problem of locating this town is complicated by the changed course of the river. Eighteenth century charts call the mouth of the Oued Drader at Moulay bou Selham, the 'old mouth', implying an oral tradition that a river, presumably the Sebou, has changed its course during historic times. Recent excavations at Moulay bou Selham (Daniel Eustache "El Basra; capitale Idrissite et son port" Hespéris XLIII 1955 pp.217-238) have produced evidence of an Idrissite port. The most that can be said therefore, is that Moulay bou Selham is an old site, and may be Subur.

Ptolemy's section on the inland towns can be said to add considerably to our knowledge of the roads of the early period of the province, as well as giving the names of early settlements. In addition to the coastal route and the two roads of the Antonine Itinerary, it is clear that there was a road through the Taza gap, and one to the South very probably as far as the Oued Sous.

Maps to illustrate the location of inland towns according to Ptolemy.

The first map is drawn from Ptolemy's information on a scale of 2 inches to 62½ Roman miles or 1;1,880,000. Roads have been inserted to show how Ptolemy constructed the map from details of journeys. The towns of Tingis and Sala have been added (from (IV:1.2)

The second map is drawn from the Third Edition Army/Air style on a scale of 1:2,000,000.

1. Zilia	Dchar Djedid
2. Lix	Tchemmich
3. Ospinum	Rhirha
4. Subur	Moulay bou Selham
5. Banasa	Sidi Ali bou Djenoun
6. Tamusida	Sidi Ali ben Ahmed
7. Silda	Ferme Priou
8. Gontiana	Sidi Aissa
9. Baba	Khemichet
10. Pisciana	-----
11. Vobrix	-----
12. Bolubilis	Ksar Pharaoun
13. Herpis	Taza
14. Tocolosida	Tocolosida
15. Trisidis	Agourai
16. Molochath	Guercif
17. Benta	Ain Lias
18. Galapha	-----
19. Thicath	El Ksiba
20. Dorath	Imdahane
21. Boccana specula	Asni
22. Vala	Taroudant
23. Tingis	Tangier
24. Sala	Chellah.

THE DISTRIBUTION OF TRIBES AND OTHER MATTERS RELATED BY
PTOLEMY

Sections 4,5,6 and 8 of Book IV Chapter I complete the picture which has been drawn of the coasts and roads of Morocco. Each section is translated from C. Muller's edition (Paris 1883) and followed by the critical commentary.

Section 4

The Eastern boundary of this country is limited by Mauretania Caesariensis, and to the south where the boundary runs from the River Malva's mouth to the point which is $E 11^{\circ} 30'$ $N 26^{\circ} 00'$ The southern boundary is limited by the adjacent tribes of Libya Interior on a line joining the terminals which we have mentioned.

There is very little that can be said about this section. The terminus which Ptolemy gives for the eastern frontier of Tingitana is 552 miles from the Mediterranean coast, that is, in the Sahara desert on the parallel of latitude of Cap Juby to the south of the Oued Draa. The southern boundary is therefore equivalent to the 28th parallel of latitude North. The tribes of Libya Interior are dealt with in Chapter 4 of the same book.

Section 5

Those parts of the province which are near the Straits are inhabited by the Metagonitae, those which are along the Spanish Sea by the Socossii, and below them the Verves; and below the Metagonitan land are the Mazices; then the Verbicae below whom are the Salinsae and the Cauni; then the Bacuatae; below them the Macanitae and below the Verves the Volubiliani; then the Iangaucani, below whom are the Nectiberes; then the Red Plain which is placed at $E 9^{\circ} 30' N 30^{\circ} 00'$ below them are the Zegrenses; then the Baniubae and the Vacuatae. On the eastern boundary live the whole of the Maurenses and a part of the Herpeditani.

Unfortunately Ptolemy does not associate the tribes of Tingitana with the towns of the province, as he does when discussing the Island of Britain. It would have been much easier to work with the knowledge that certain townships could be placed in the territory of a particular tribe. Ptolemy, however, has collected all the tribes into one list, perhaps because they had already been abstracted in the source which he was following.

Ptolemy uses two distinct terms to indicate the relationship between the tribes. The term 'infra' may be translated 'below' in the sense that if the north is at the top of the chart, a southern tribe will be below its northern neighbour. The other term 'deinde' may be an alternative for 'infra', or it may indicate an east-west relationship. Two tribal names correspond with sites, and one more corresponds with a town which has not been definitely located. As a further help, Ptolemy gives

another place name and its position so that two more tribes can be located with reasonable certainty. It seems also that he followed a straightforward order, naming the tribes from North to South in groups from West to East.

The modern map of Morocco shows a diamond-shaped country with the long points at the North East and South West corners. Ptolemy, on the other hand, pictured Tingitana as an upright oblong having great depth and little width, 600 miles from North to South but only 250 from East to West.

He begins by naming the two tribes who live on the Northern coast, the Metagonitae and the Socossii, the former tribe being on the Straits, the latter on the shore of the Spanish sea. Below the Socossii, he places the Verves, and then he reverts to the Atlantic coast and puts the Mazices below the Metagonitae. Ptolemy then proceeds down the western side of his map, alternating between 'below' and 'then' to introduce each tribe. Down this coast in order from North to South, live the Verbicae, the Salinses, the Cauni, the Bacuatae and the Macanitae. Ptolemy then changes to the centre of his map and puts in succession below the Verves, the Volubiliani, the Iangaucani, the Nectiberes, the Zegrenses (below the Red Plain), the Baniubae and the Vacuatae.

Lastly he turns to the eastern border and names the Maurenses and a part of the Herpeditani as the tribes of that area.

Having seen how Ptolemy envisaged the tribes on his chart, it is possible to assign certain towns to each tribe. The Salinses, Volubiliani and Herpeditani have obvious towns and form convenient starting points. The Salinses' territory would include the town of Sala, but it is unlikely that any other towns were established in their area. In all probability, the Oued bou Regreg formed the northern boundary, and the Monts de Zaer the eastern. On the south, their territory marched with that of the Cauni, who may extend as far as the Oum er-Rbia on the south, and to the Phocra hills on the east. The Bacuatae held the land south of the Cauni, that is to say, the valley of the Oum er-Rbia and the harbour of Rusibis. The Macanitae lived further south still, probably as far as the High Atlas which meets the sea near Mogador. The town of Mysocarus would be in their territory.

North of Sala lies the forest of Mamora, an area possibly uninhabited, which formed a barrier between the Salinses and the Verbicae. There are at least three towns in the plain of the Sebou where one would expect the Verbicae to dwell, Banasa, Thamusida, and Silda (or Gilda). North of the Verbicae were the Mazices, and it is probable that they extended as far as the Straits

of Gibraltar. The Metagonitae, whom Ptolemy placed on the Straits, ought to dwell in the area named after them, namely Metagonium, which is further east. It is possible that Ptolemy's source described this tribe as living near Spain, meaning that the peninsula on which they lived, stretched out into the Mediterranean. He may even, like Strabo, have miscalculated the true distance between Metagonium and Spain, and believed that it was further north than the Straits. Ptolemy, following this misinformation, but knowing that Metagonium was not as far north as the Straits, put the Metagonitae on the more northerly point. This fact might also explain why he did not relate the tribes to the towns, for he realised the impossibility of Russader being a town of the Metagonitae, if they inhabited the Straits.

Of the central group of tribes, the Volubiliani provide a starting point, for they clearly dwelt on the Volubilis plateau and Tocolosida as well as Volubilis would be in their territory. North of the Volubiliani were the Verves who lived in the valley of the Ouergha and the southern foothills of the Rif. The principal town in their land was Babba. On the other side of the Rif, that is on the Mediterranean coast lived the Socossii, whose chief town was Acrath. It seems unlikely that their territory extended as far as Metagonium on the east, and the River Thamuda on the west.

South of the Volubiliani was the area inhabited by the Iangaucani, who may be related to the Cauni of the coast. Their territory which included the town of Trisidis, extended from the Volubilis plateau to the cliff on which Agourai stands. From there, the pass between the headwaters of the Oued Beth and the Oum er-Rbia, and probably the upper valley of the Oum er-Rbia, was in the hands of the Nectiberes, together with the towns of Benta and Thicath. Dorath which is north of the Red Plain is probably the southern limit of the Nectiberes. The Red Plain has already been identified as the Haouz, the area around Marrakesh, and the Zegrenses who lived south of it, must therefore have occupied the northern slopes of the High Atlas. It is extremely unlikely that the tribes, which Ptolemy mentions next, lived south of the Zegrenses, for they would in that case be Aethiopian tribes and qualify for the map of Libya Interior. Ravennas mentions a town Boniuricis in connection with the road to Caesariensis, and it seems far more probable that the Baniubae (Pliny's Baniurae) lived in this area. It might be that Ptolemy found himself with two tribes which he could not put east of Volubilis, since that area of his map was inhabited by Maurenses and Herpeditani. On a modern map, with the correct orientation of Morocco there would be a large gap

between Volubilis and the eastern border if these two tribes were placed in the High Atlas. The Baniubae should really inhabit the upper valley of the Sebou and Inanouene, while the Vacuatae would occupy the area between Fez and the Middle Atlas.

The two eastern tribes are easier to deal with than the others. The Herpeditani are presumed to occupy the area around Herpis, which has been suggested as holding the Taza gap. The remainder of the Herpeditani, who could not find living space in the confined area of the gap, lived across the frontier in Caesariensis. The Maurenses (Pliny and Strabo give a somewhat similar name to all the inhabitants of Tingitana) occupied the valley of the Moulouya, including the towns of Molochath and Galapha.

This appears to be the best distribution of the tribes which Ptolemy names. It takes into account the difficulties into which he forced himself, by mistaking the shape of the inhabitable area.

Section 6

The noteworthy mountains in this land are those which are called Diur, of which the middle part is located at E 8 30' N 34 00' and Phocra, which extends from the Little Atlas to Cape Ussadium along the coast and the western part of Durdus which is situated at E 10 00' N 29 30'

The position given by Ptolemy for the Diur Mountains corresponds to Djebel Zerhoun, for they are both between Volubilis and the Sebou valley, and south east of Babba. It may seem strange that Ptolemy should single out this comparatively minor range for notice, but it is a very noticeable feature. Even though roads cross this range it is still easy to be lost amid the narrow valleys. To the Romans, its western edge provided stone for Volubilis; and it was also a potential source of danger.

It is a mistake to think of Phocra as a range of mountains, for none exist in the area which Ptolemy names. Like Diur, it must be something worthy of notice, and for this reason, it is probable that the name should be applied to the continuous cliff which separates the Chaouia from the Rehamma. This escarpment is the most prominent feature of Atlantic Morocco.

The Western part of the Durdus Mountains is placed by Ptolemy about 35 miles east of Boccana specula, which has already been proposed as Asni; this position corresponds to the Djebel Toubkal, the highest peak of the High Atlas.

Section 8

The islands lying next to this province to the west in the Outer Sea are

Paena	E 5 00'	N 32 00'
Erythia	E 6 00'	N 29 00'

Neither of these two islands is readily identifiable.

Paena appears to be 100 miles west of the mouth of the Oum er Rbia, Erythia the same distance from Agadir. No islands, however, exist in either of these areas.

Ptolemy is therefore inaccurate.

There are two possibilities which may explain this mistake. The islands may be mythical, a story of sailors, which Ptolemy accepted as true. In that case there is no point in searching further. Alternatively, Ptolemy may have had confirmation from other sources of the existence of these islands, in which case there must be some way of identifying them. There seems to be a case for trusting the coordinates of latitude which Ptolemy gives. If the source gave the length of day at a certain period of the year, it would be possible for a competent mathematician and astronomer to work out the latitude of the places where the observation was made. Coordinates of longitude, on the other hand, depend upon the observation of eclipses, and it is not always possible to determine the exact time at which an eclipse begins. In addition to these two islands Ptolemy gives the position of the island of Cerne (E 5 00' N 25 40', 160 miles W.S.W. of

Cap Dra) the island of Juno (E.8 00' N 23 50', 220 miles N.W. of Cap Blanc) and the Isles of the Blessed (Six islands between E.0 00' and 1 00' and between N 10 30' and 16 00', the centre of the group being about 400 miles west of Cap Verde). The latitude which Ptolemy gives for these islands, means that he refers to the Cap Verde Islands, for this group lies around latitude 15 N and is approximately 400 miles from Cap Verde. Juno's Island lies on the Tropic of Cancer, which is about 220 miles north of Cap Blanc, but it is more likely to be found in the estuary of the Rio de Oro than in the open sea. Cerne, in latitude 25 40', is probably one of the Canary Islands, though these are in latitude 28 and 29. Cerne is, however, the right distance (160 miles) from Cap Dra to be considered as one of the group, probably Fuertaventura or Lanzarote. From its nearness to the coast, it is likely that it was the first group of islands to be called at, for from the Canaries, the Portuguese islands of Pitons and Salvages (about 150 miles N.W. of Lanzarote) are stepping stones to Madeira (about 180 miles N. of Pitons). Erythia and Paena occupy similar positions on Ptolemy's map. Erythia is 214 miles from Cerne, and Paena is 194 miles further. Madeira and Paena are on the same parallel of latitude, and this may have affected the latitude of the remaining islands.

Owing to his initial miscalculation, Ptolemy only allowed $62\frac{1}{2}$ miles for a degree of great circle, whereas there are 75.14 miles per great circle degree. As he moves away from his starting point, this error becomes greater. Erythia will, therefore, be south of its true latitude and Cerne even further south. If the route to Madeira started from the Canaries, it would explain why Paena and Erythia are so close to the mainland. Ptolemy knew the latitude of Paena and its distance from Erythia and Cerna, but not how far these islands were from the mainland.

Map to show the distribution of tribes according to Ptolemy.

The map is drawn from the Third Edition Army/air style map of North Africa on a scale of 1: 2,000,000.

In addition to the tribes mentioned by Ptolemy, three towns which are tribal centres are included, as are the mountains named in section 6.

Volubilis
Sala
Herpis

Ksar Paraoun
Chellah - Rabat
Taza

Diur Mountain
Phocra hills
Dardus Mountains

Djebel Zerhoun
Settat scarp
High Atlas

THE COSMOGRAPHY OF THE ANONYMOUS WRITER OF RAVENNA.

This work, commonly referred to as *Ravennas*, is one of the simplest and at the same time, the most difficult of the ancient sources. It is simple because it is a list of place names; it is difficult because it was written long after the Roman Empire of the West had fallen, and the information which it contains, was out of date before it was collected. It is, in a sense, an antiquarian document, a collection of old and obsolete material which was compiled without critical enquiry, and it suffers because of this. Furthermore, extraordinarily little has been written about this work, and even the admirable article by I.A. Richmond and O.G.S. Crawford in *Archaeologia* XCIII (1949) has little to say about the way in which it was compiled. The authors of that article do, however, point out that *Ravennas* failed to give the name of his source for Morocco as well as for Britain, and that this is rather unusual.

It appears from the opening chapters of the work that its writer, probably a monk or priest, had access to copies of road maps, itineraries, and other documents now for the most part lost, and that he compiled a list of

the places mentioned in these sources, in order to show the previous extent of the Roman Empire. In Book I, he names the countries and shows their relationship to one another by reference to a clock-face. In Books II, III and IV, he takes each country in detail, repeating some parts of his previous work, and in Book V, he describes the coasts of these countries. References to Tingitana, therefore, occur in three books of the *Cosmography*, Books I, III and V. It will be noticed that, although *Ravennas* refers to *Mauretania Tingitana*, this is not the area with which the present writer is concerned. The area which is being studied here is named *Mauretania Gadihana*.

The translation which heads each subsection of this chapter is made from Parthey and Pinder's edition of 1860, and Porcheron's edition of 1784.

Book i Chapter iii

To the seventh hour of the day is ascribed Mauritania Perosis, or the land of the salt-works. In this country it seems there are still great heat-waves; in this land is the very great extent of desert and mountains which are called Lutricus. To the rear of this country, far within the Ocean, are found three great islands. In front of this land, with much space in between, that is on the shore of the Great Sea, is Mauretania called Tingitana, which borders Mauretania Caesariensis which has already been mentioned.

The eighth hour of the day belongs to Mauretania called Egel, in which country, next to the shore of the Ocean, are mountains which are said to burn. In this land the very shore of the Ocean is (made of) mountains, which are called Bracae. To the front of this country, at a distance of many miles, that is on the shore of the Great Sea, is placed Mauretania called Gaditana, which, in the barbarian tongue is called Abridia. On the shore of the Great Sea, it has a common boundary with the already mentioned Mauretania Tingitana. In this land of Gaditana, the Vandal people, thrown out by Belisarius, fled into Africa and never reappeared. The straits nearest to the Gaditanan land are said to be the Septemgaditanan.

Ravennas indicates the position of the countries which he is about to describe by reference to a clock-face. Each hour of the clock-face occupies a sector of the circle; the seventh hour lies between 210 and 240 degrees (true), and the eighth between 240 and 270 degrees (true). In each of these two sectors are placed two parts of Mauritania, the first named being further, on the Outer Ocean, and the second nearer, on the Great Sea. Hence Gaditana occupies the North-West corner; Tingitana, the North East; Egel, the South West; and Perosis, the South East. It

must also be noticed that Perosis is further from Tingitana than Egel from Gadihana, and that Gadihana is the area nearest the Straits of Gibraltar. Tingitana lies between Gadihana and Caesariensis. Perosis is separated from Gadihana by Egel.

It is not known where Ravennas found this division of Mauritania. It is possible that it comes from a re-adjustment of dioceses following the defeat of the Vandals. On the other hand, it looks as if Ravennas was misled by the presence of Castellum Tingitanum in Caesariensis into thinking that Tingitana was not near the Straits. In order to name the province which was thus made vacant, Ravennas used the Spanish town of Gades to provide the stem for Gadihana. A case might be made out for the suggestion that the attachment of Tingitana to Spain in the later Empire was the cause of this change of name. It will be seen that the names which have already been noted as belonging to Tingitana, are credited by Ravennas to Gadihana, and a new list prepared for Tingitana.

Book III Chapter 9

Next to the Ocean is placed the land which is named Mauritania Perosis, or the land of the salt-works, whose boundary meets with the afore-mentioned Aethiopia Biblo-bastis: in this Perosian Mauritania, there is said to be a very large desert. In this country are the mountains called Lytricus (Litri), At the back of the country, far within the Ocean, three islands are found. In front of this land, where spaces of the Great Sea might be, is placed the land which is called Mauritania Tingitana. Likewise, in the mountainous or rough or very dry places between the above-mentioned Mauritania Perosis, which is placed next to the Ocean, and Mauritania Tingitana, which is placed next to the Great Sea, is a great country which is called Gaetulia, to which in his homilies St. Gregory refers. In this Gaetulia in spite of the lack of water, since it is far from the Ocean, and further from the Great Sea, and the rivers which flow there are very small, we read that there were some cities, namely:-

Thursurum, Tices, Speculum, Turres, Cerva.

Again, next to the shore of the Great Sea is Mauritania Tingitana, in which we read were very many great cities, of which we wish to name some, namely:-

the City of Tingis, Cadum Castra, Castra Nova, Tasacora, Dracenesse, Tepidas, Fovea Rotunda, Ripas Nigras, Stavulum regis, Atava, Taxafora, Fulga, Figit, Gent, Subsellit, Nassufa.

Again next to the city which we called Tingis, are the cities named:-

Turbice, Septemvenam.

Through this country flow the rivers which are called Turbulenta, which others call Davinam.

Although Ravennas has to a large extent repeated his previous remarks, he does make the situation a little clearer by placing Gaetulia between Perosis and Tingitana. Traditionally Gaetulia is a desert land to the south of the North African ranges, and Gaetulians are found all the way along the northern edge of the Sahara desert from Tripolitania to Tingitana. The names of the towns mentioned in Gaetulia are unknown but not unexpected. Turres and

Speculum are very suitable names for the outposts on a desert frontier.

The places which Ravennas names as being in Tingitana, are not otherwise recorded in that province, with the one exception of Tingis, which is also recorded in Gadihana. Four of these names have a close resemblance to names in Caesariensis. So much so, that, taking into account the fact that the ancient name for Orléansville appears to have been Castellum Tingitanum, it seems clear that Ravennas has mistaken Castellum Tingitanum for Tingis colonia. Cadum Castra is Gadaum castra; Castra Nova, sent a bishop to the Carthage conference of A.D. 484; Tasacora and Tassacora (Saint-Denis du Sig) and Atava and Altava (Lamoricière) are obvious doubles. The exclusion of this chapter from further consideration is therefore justifiable.

Book III Chapter 10

Again, next to the Ocean, near the above-mentioned Mauritania Perosis, is the land which is called Egel. In this land, next to the Ocean, are mountains, which, like Mount Etna, are said to burn. In this land, next to the Ocean, are very high mountains which are called Praxe. In front of this land, at a very great distance namely on the shore of the Great Sea, is placed the country which is called Mauritania Geditana.

Although repeating most of his previous remarks, Ravennas does add a few more details. In particular he states that the mountains of Egel are like Mount Etna; they must therefore be volcanic. There are now no active volcanoes in Morocco, but there are traces of recent volcanic activity in the Anti-Atlas. Egel is therefore, the southern part of Morocco, and the mountains which are called Praxe (here, but Bracae in I, iii and Pliny V;i;9) must be the High Atlas behind Agadir.

Book III Chapter II

Also on the shore of the Great Sea is placed Mauritania Gaditana, which has a common frontier on the shore of the Great Sea with the afore-mentioned Mauritania Tingitana. This Gaditanan land afore-mentioned, is called in the barbarian tongue Abridia, and is where the Vandal race, expelled by Belisarius, fled into Africa and nowhere reappeared. Following the many-times quoted Castorius, I have called this country (Gaditana). In this Mauritania Gaditana, we read there were many cities of which we wish to name some, namely:-

the city of Pareatina which is placed on the Great Sea near the afore-mentioned river Malba, not far from the Sigensian harbour.

Also the cities of:-

Tingis (a colony), Zili, Tabernis, the colony of Lix, Banasa, Gigantes, Oppido Novo, Tremulae, Septem Fratres, Tamusida, Sala, Gontiano, Explorazio, Boballica, Bobiscianis, Aquis Daticis, Baba, Tocolosium, Bolubili, Boniuricis, Gudda, Bata, Argenti, Barsuuli, Sidilium, Egelin, Lampica, Fons Asper, Nabia, Maura, Getuli, Selitha, Getulisofi, Getulidare, Turrus Buconis, Paurisi and Perora.

This above mentioned Mauritania Gaditana which is called Abridia in the barbarian tongue, touches the Strait which is called Septegaditano, which divides Mauritania from Spain, or the African province from Europe. Through the province of Gaditana flow many rivers among which are some which are called:-

Subulcus, Ubus, and Salensis.

For the sake of convenience the towns listed by Ravennas have been given numbers as follows:-

Tingi colonia	1	Explorazio ...	14	Egelin	27
Zili	2	Boballica ...	15	Lampica	28
Tabernis	3	Bobiscianis ..	16	Fons Asper	29
Lix colonia	4	Aquis Daticis.	17	Nabia	30
Frigidis	5	Baba	18	Maura	31
Banasa	6	Tocolosium ...	19	Getuli	32
Gigantes	7	Bolubili	20	Selitha	33
Oppido Novo	8	Boniuricis ...	21	Getulisofi	34
Tremulas	9	Gudda	22	Getulidare	35
Septem Fratres	10	Bati	23	Turrus Buconis ..	36
Tamusida	11	Argenti	24	Paurisi	37
Sala	12	Barsuuli	25	Perora	38
Gontiano	13	Sidilium	26		

Seventeen of the first twenty names have been encountered in the Antonine Itinerary and Ptolemy's Geography. Four of the remainder may have been met before, but in the presence of seventeen new names one is at a loss how to proceed. Messrs. Richmond and Crawford, in their work on the British section, were able to group the names into areas as they came from this list, and to correlate these with a known system of roads. This cannot work in Morocco, for the system of roads does not cover the whole country. There seems to be rather more similarity between Morocco and Numidia, for in both areas, Ravennas has conflated two roads into one list. The evidence for this process can be found in "Studies in Roman Numidia" p.122, where it is shown that the third group of names in Book III Chapter 6 are taken from the Schemteu-Carthage, and El Kef-Carthage roads, as described on the Peutinger Table. Unfortunately the Peutinger Table lacks the western fold, so there is no comparable material for Morocco. It is possible, however, to work backwards from Ravennas' information, and produce an idea of what the Table (or alternatively Castorius' map) looked like. Assuming that Ravennas took the names from a road map like the Peutinger Table, one can deduce from the order of the first twenty names, that he read from left to right and from the bottom to the top. But he did not read continuously from

left to right for no.10, Septem Fratres, must be at the top of the map and no.13 is above nos.11 and 12. It would seem therefore that in reading from left to right he stopped for some reason and then worked upwards. The probable halts can be identified as rivers, at least as far as the first two breaks are concerned. The third break which occurs after No.18 may be due to a river which, if it follows the course of the Sebou, should curve back. This marks the end of certainty and the beginning of speculation, for the majority of the remaining names have only a tenuous thread to connect them with those names already recorded. Furthermore, those which have some likely connection do not seem to be in any special order, and the reconstruction of Ravennas' source is highly problematical. There are some names, however, which can be disposed of at once. Nos. 19 and 20 are already known and located though they occur in the reverse order. No. 21 would seem to be connected with a tribe in the Upper Sebou valley. No.22 is definitely misplaced. No.23 and No.26 might be towns on the Southern route. No.24 may have some connection with the silver-mines of the area around Guercif. Another river may be responsible for the break before No.27 which should be near Mauritania Egel. No.31, if it represents the tribal centre of the Mauri, should be at the other end of the province. Nos. 32, 34

and 35 are three tribal centres of the Gaetuli, who inhabited the northern fringe of the Sahara. Getulidare in particular, suggests a branch of the main tribe living on the River Daras, which, although not conclusively identified, is probably the Oued Sous. No.36 may be mentioned in Ptolemy (IV;i;7) in which case it seems to be out of order for it should come between Nos. 28 and 35. Finally Nos.37 and 38 are both mentioned by Pliny (V;i;10), as tribal centres in the Anti-Atlas.

The list which follows gives alternative names where known, possible and probable identifications with possible or known sites, and road connections known from other sources or assumed on the basis of the hypothesis suggested above. It is not in numerical order but in road order so that the sequence of sites may be more easily seen.

Coast Road from Tangier to Sala and beyond.

1. The colony of Tingis - Tangier - roads leading southwards to Sala along the coast and to Volubilis inland, splitting at 3 and 4.
2. Zili - Zilis - Dchar Djedid - connected with 1 and 3.
3. Tabernis - properly Tabernae - the Taverns - Lalla Djellalia - connected with 2 and 4 and probably with 8.
- 4.= The colony of Lix - Lixus - Tchemmich - connected with 3 and 5 and probably with 8.
5. Frigidis - Cold Springs - Soueir - connected with 4 and 6.
6. Banasa - Sidi Ali bou Djenoun - connected with 5 and 11.
11. Tamsida - Thamusida - Sidi Ali ben Ahmed - joined to 6 and 12.

- 12. Sala - Chellah near Rabat - joined to 11 and 14.
- 14. Explorazio - properly Exploratio - Outpost - site unknown but south of Rabat - joined to 12.
- 15. Boballica - otherwise unknown - on the coast south of Rabat (see V; 4) joined to 12.

Inland road from Tabernae or Lixus to Volubilis.

- 8. Oppido Novo - properly Oppidum Novum - Newtown - Alcazarquivir - joined to 9 and 3 or 4.
- 9. Tremulas - properly Tremulae - Aspens - site unknown but probably in the vicinity of Basra - joined to 8 and 13.
- 13. Gentiano - properly Gontiana - probably Sidi Aissa near Souk el Arba du Rharb - joined to 9 and 16 and probably to the Caesariensis road at 18.
- 16. Bobiscianis - properly Vopiscianae - site unknown but probably Mechra bel Ksiri - joined to 13 and 22 and also to the Caesariensis road at 18.
- 22. Gudda - properly Gilda - Sidi Slimane - joined to 16 and 17 - misplaced by Ravennas.
- 17. Aquis Daticis - properly Aquae Dacicae - site unknown but probably at Moulay Yacoub - joined to 22 and 20 with possibly a slip road to 19.
- 20. Bolubili - properly Volubilis - Ksar Pharaoun - joined to 17 and 19.
- 19. Tocolosium - properly Tocolosida - site located south of Volubilis - joined to 17 (possibly) and 20 and the terminus of the southern roads.

Caesariensis road from Gontiana or Vopiscianae through the Taza gap to Tipasa in Caesariensis.

- 18. Baba - Babba Campestris - probably near Khemichet in the area between the Sebou and the Ouergha - joined to 13 via 16 and to 21.
- 21. Boniuricis - properly Baniurae - a tribe living in the upper Sebou valley joined to 18 and 25.

25. Barsuuli - meaning and site unknown - likely to be in the Taza gap joining 21 and 24.
24. Argenti - Silver - hence near Guercif on the Moulouya joined to 25 and 31.
31. Maura -tribal centre of the Mauri - and therefore in the eastern part of the province - possibly on the eastern side of the Moulouya or north of Guercif - joined to 24 and Caesariensis.

Southern road from Tocolosida to the coast via Marrakesh

26. Sidilium - possibly Trisidis of Ptolemy - Agourai - joined to 19 and 23.
23. Bati - possibly Benta of Ptolemy - Ain Lias, between Azrou and Kasba Tadla on the Trik es Soltan - joined to 26 and 30.
30. Nabia - meaning and site unknown - between 23 and 29.
29. Fons Asper - Fierce spring - site unknown but there are many possibilities on the north side of the High Atlas - joined to 30 and 28.
28. Lampica - from 'lampas' a torch - possibly a volcano or a reference to the Red Plain of Marrakesh - joined to 29 and 27 and 36.
27. Egelin - near Mauritania Egel - i.e. south of Geditana - possibly a customs post or frontier town not far from the coast - a site unknown joined to 28.

Desert road or Gaetulian road from Sidilium or Bati over the pass between the Middle Atlas and the High Atlas along the southern edge of the High Atlas and back to Marrakesh.

33. Selitha - meaning and site unknown - possibly near Midelt where the modern road crossed the head waters of the Moulouya - joins 23 or 26 with 32.
32. Getuli - tribal centre of the Gaetuli, a desert tribe - therefore south of the High Atlas possibly near Ksar es Souk - joined to 33 and 34.
34. Getulisofi - tribal centre of the Gaetuli, possibly Gaetuli oppidum, i.e. a permanent centre of a nomad tribe - between Ksar es Souk and Taroudant - in the valley of the Oued Draa - joined to 32 and 35 and possibly to 36.

35. Getulidare - properly Gaetuli Daras - tribal centre on the River Daras - possibly Taroudant - joined to 34 and 36 and possibly to 37 and 38.
36. Turris Buconis - Boccana specula (Ptolemy) - Asni - between Marrakesh and Taroudant at the northern end of the pass through the High Atlas - joined to 28 and 35 and possibly to 36.
37. Paurisi - or Pharusii - tribal centre of a desert tribe living to the east of the Perorsi - pioneers of Trans Sahara transport. Connections uncertain and unnecessary if it is regarded as a tribal name and not a settlement, but possibly joined to 35.
38. Perora - or Perorsi - tribal centre near the coast - possibly in Ifni - may be joined to 35 if a road is necessary.

Odd sites not joined by roads.

7. Gigantes - Giants - without doubt the name refers to the megalithic monument known as Mazora 10 kms. east of Tabernae. It is not certain if this name refers to a settlement as well.
10. Septem Fratres - Seven brothers - Djebel Moussa - a hill overlooking Ceuta. As this hill is usually remarked on by geographers, it may be that it is included in this list as a geographical feature than as a town. If it is a town connections would be by sea.

From the Antonine Itinerary, Ptolemy's Geography, Mela's 'de Situ Orbis', Strabo's Geography and Pliny's Natural History, a list of 46 place names can be compiled, of which only 12 are cited by two or more authorities. Another 12 are confirmed by Ravennas, leaving 22 uncorroborated names, to which Ravennas and the remaining minor writers add 28 more names, which are mentioned only once. One value of Ravennas' work is the confirmation of names which might otherwise be disregarded.

There seem to be two types of place-names in the full list of 74: some are names of permanent establishments of a military or civil nature with elegant stone or at the least timber buildings; others are transient camp-sites where nomadic tribes occasionally assembled. With a nomad population which shifts its quarters twice yearly, not necessarily returning to the pastures it has once grazed, it is quite normal for names to change; for the name given by one tribe is not always the same as that given by another tribe, or even another generation. This, to some extent, accounts for the astonishing prolixity of extra-provincial nomenclature. Most of the once-recorded names occur outside the civilised portion of the country.

The omission of some names and the inclusion of others suggests that the map from which Ravennas worked, was made before the Antonine Itinerary was compiled, but after the main settlement of the province, that is to say at the turn of the second century rather than in the middle of the third.

The hypothetical basis of the reconstructed source of Ravennas' work, gives further grounds for belief in the identification of Zili with Dchar Djedid, for the road between Tingi and Tabernae had no turning to Oppidum Novum; there would therefore be no reason for the naming of Mercury's temple, though it may have been in existence. On this point no-one can be certain until

the actual temple has been excavated. Dchar Djedid, however, was flourishing at this time and must be Zilis. The junction of the inland and the coastal roads occurred either at Tabernae or, more probably, south of Lixus. The Antonine Itinerary shows a further stage in the development of the road system, and perhaps reflects a reorientation of military thought. The new road from Tingi to Oppidum Novum (Alcazarquivir) takes a more easterly course in order to provide surveillance over the bellicose tribes of the Rif, as well as cover for the main coastal road.

The main interest in Ravennas' work is usually the list of towns, but in Tingitana, interest also attaches to the rivers. In addition to the three rivers, Subulcus, Ubus and Salensis, he refers to the River Malba in his account of the city of Hareatina. This river is traditionally the boundary between Tingitana and Caesar-iensis, but in this context it appears as the boundary between Gaditana and Tingitana. Of the other rivers, Salensis is immediately identifiable as the Oued bou Regreg, but whether Subulcus or Ubus is the Sebou, it is difficult to say. The reconstruction shows the necessity for putting in the Oued Sebou, in order to provide the break in the list of names, just as the Oued bou Regreg breaks the list at 12. The other probable river is the Oum er-Rbia which gives Ravennas an excuse for starting

at the coast with No.27. The name Subulcus may, knowing Ravennas' tendency to conflation, represent two rivers, the Subur and the Lucas; Ubus, in that case, would be the name for the Oum er-Rbia.

Book V Chapter iv.

Here is found the strait which we have oft-times mentioned which is called Septemgaditanan, because it separates Yspania and Coastal Mauritania. This strait, leading from the Great Gallico-Valerian Sea emerges into the Western, British, Ocean. A man passing through this oft-mentioned strait around the shore of the Great Sea would find in the land of the Mauri the city which is called Bovallica, followed by Sala, Tamusida, Banasa, Frigidis, the colony of Lix, Tabernae, Zili, the colony of Tingi, Parietina.....

This is rather an anti-climax after the previous section, for it is largely a repetition of matter given in Book III. It does help, however, by putting ten names into a definite order. They are described as being found on the coast, though in fact some of them, Banasa, Zili and Tabernae, are well inland. Furthermore, from the order in which they are listed, it is permissible to deduce that Bovallica is south of Sala, though how far away it is, Ravennas does not say.

The last named town in Morocco is Parietina, which was mentioned in Book III Chapter xi, where it was spelled Pareatina. This town is also named in the Antonine Itinerary as a station on the coastal voyage to Carthage, and identified as Runta Pescadores. This isolated position is reflected in Ravenna's list and presumably on Castorius' map.

More significant, however, is the omission of Explorazio. If, as has been assumed previously, it is

equated with the Exploratio of the Antonine Itinerary, it should be a site immediately south of Sala, and should be included in the list of coastal sites which Ravennas so obviously read from the coastal road.

One possible inference from its omission is that Explorazio was not on the coast; but neither was Banasa. Another inference is that Explorazio was south of Bovallica, which means that Bovallica was very near Sala. Bovallica might be at Temara in that case. Another possible inference is that Explorazio was much further south of Sala, perhaps the Oum er-Rbia, and that the unit was withdrawn from its forward position to provide the town of Sala with greater protection. The occupation of Castellum Dimmidi in southern Algeria provides an analogy for the occupation of a distant position in the early third century. Lastly, Ravennas or his copyist may have made a mistake in compiling or copying this chapter.

Ravennas' work as a document loses much of its value because so little is proven concerning the road system of the province. Much has been done on the roads of Britain a considerable portion of it being the work of local enthusiasts. Unfortunately Morocco is unable to call upon the local societies for field work of this nature, and in any case the nature of the country

is against finding the course of roads by simple ground observation, though a start in this direction has been made by M. Raymond Thouvenot.

The Cosmography has, however, considerable value for this study because it shows how much the Romans had been able to learn about settlements outside the narrow limits of the province. It also provides confirmation for the names of some towns.

Maps to illustrate Ravennas' Cosmography

The first map is a reconstruction of Castorius' map, based on Ravennas' lists and modelled on the Peutinger Table.

The second map is drawn from the Third Edition Army/Air style map of North Africa on a scale of 1:2,000,000 and shows the places named by Ravennas and their probable sites. A continuous red line indicates a provincial road; roads outside the province are shown by an interrupted line.

ingis	Tangier	Sidilium	Agourai
ili	Dchar Djedid	Bati	Ain Lias
abernis	Lalla Djellalia	Nabia	
ix	Tchemmich	Fons Asper	
rigidis	Soueir	Lampica	(Marrakesh)
anasa	Sidi Ali bou Djenoun	Egelin	
hamusida	Sidi Ali ben Ahmed		
ala	Chellah		
xplorazio		Selitha	(Midelt)
ovallica		Getuli	(Ksar es Souk)
		Getulisofe	(Ouarzazate)
ppidum Novum	Alcazarquivir	Getulidare	(Taroudant)
remulas	Basra	Turris Buconis	Asni
ontiana	Sidi Aissa		
obiscianis	Mechra bel Ksiri	Paurisi	(Goulimine)
udda	Sidi Slimane	Perora	(Ifni)
quis Daticis	Moulay Yacoub		
olubili	Ksar Pharaoun	Gigantes	Mezora
ocolosium	Tocolosida	Septem Fratres	Dj. Moussa
aba	Khémichet	Parietina	P. Pescadores
oniuricis			
arsuuli			
rgenti	Guercif		
aura			

THE NOTITA DIGNITATUM

Among the sources for the history of the fourth and fifth centuries A.D. the Notitia Dignitatum ranks high. In substance it is a list of the senior civil and military officers of the Empire, together with the units and staffs under the command of the latter. This is not the place to account for the peculiarities of the document as a whole, but some reference must be made so that the particular section which is our concern, may fall into its rightful place. In so far as it refers to the Eastern Empire, the Notitia may be treated as a single document, but the Western Section seems to be a collection of documents made in the fifth century but written at various times during the previous century and a half; this applies in particular to the military details of its frontier dispositions as well as those of the field army. It is also necessary to explain that, although the present study is concerned primarily with the geography of Morocco, the historical details which follow are essential for an understanding of the reconstruction suggested.

The translation which follows is made from Otto Seeck's edition (Berlin 1876).

Chapter V. The Master of the Infantry

- 125 Under the command of the Illustrious Master of the Infantry in attendance,
- 126 The Counts of the frontiers mentioned below....
- 129 Tingitania

- 157 Sixty five Auxilia Palatina (including)
- 221 Mauri tonantes seniores
- 222 Mauri tonantes iuniores

- 223 Thirty two Legiones Comitatusenses (including)
- 242 Septimani iuniores

- 256 Eighteen Pseudocomitatusenses (including)
- 271 Constantiaci

Chapter VI The Master of the Horse

- 41 Under the command of the Illustrious Count, Master of the Horse in attendance...
- 53 Vexillationes comitatusenses (including)
- 63 Equites scutarii
- 83 Equites sagittarii Cordueni
- 84 Equites sagittarii seniores

Chapter VII

The above mentioned units are stationed in the following provinces:

- 135 In Tingitania with the Notable Count.
- 136 Mauri tonantes seniores
- 137 Mauri tonantes iuniores
- 138 Constantiniani
- 139 Septimani iuniores

- 207 Equites scutarii seniores
- 208 Equites sagittarii seniores
- 209 Equites Cardueni

There is no evidence for any change in chapters V, VI and VII as far as the units assigned to Tingitana are concerned, and it can be confidently accepted that the fifth-century field army of the province was composed of four infantry and three cavalry units. They were commanded by the Count of Tingitana whose rank was that of a Notable, as were also the frontier troops listed in chapter XXVI. The implications of this unified command will be considered later.

For the purposes of the present geographical study the units of the field army can be disregarded, and attention concentrated upon the frontier troops. In chapter XXVI there are spaces for eight units, but only seven and their stations are named. The eighth unit (XXVI, 17) is missing altogether from the text, but on the insignia the name of the eighth station is shown as Sala, and Seeck rightly restores that place in his text, though the unit in garrison cannot be restored.

It is not necessary to assume that the units were listed in strict geographic order, for it was customary to put senior commanders, as it were full colonels, in front of their juniors, as it were lieut.-colonels. Consequently the only cavalry unit in the frontier force is named first. The infantry commanders follow, but not in order of seniority (as in most of the military

diplomas). Three units, II Hispanorum, I Ityraeorum and III Asturum are mentioned in the diplomas of the reigns of Trajan and Hadrian which have been recovered from Banasa. Two other units, the Ala Herculea and Coh. I Herculea, owe either their formation or their name to the Emperor Maximian, perhaps as a result of his personal command of operations against the Rif tribes. The two remaining units, Pacatiensis and Friglensis, take their names from their stations, and it may be that they were formed from units which had either disgraced themselves in Maximian's Rif campaigns, or had been cut to pieces in some severe engagement. In any case they are late creations, i.e. Fourth Century.

Since it can be demonstrated that portions of the chapters of the Western Notitia are arranged on a geographical basis, as in the case of the section "item per lineam valli" in the Duke's section of Britain (J.P. Gillam, C. and W. Trans. N.S. xlix, p. 38ff), it would be useful to try to find a similar arrangement in Chapter XXVI. It seems likely, on first principles, that the frontier troops of Morocco were guarding against two threats, one from the Rif, the other along the coastal road. Since the senior cavalry commander should act as Second-in-Command to the Count, and often as an independent sector commander, the more important of these

10.6

two threats clearly came from the Rif: thus the presence of the Ala Herculea at Tamuda can best be accounted for, despite the fact that the terrain is hardly suitable for cavalry. If the secondary threat was the one along the coast road, it would not be surprising that only second-class units should be used to guard it.

The frontier troops of Tingitana can therefore be divided, on this hypothesis, into two groups: a) one cavalry and three infantry units on the Rif front, and b) the remaining four units on the Atlantic front. In the Rif sector, the senior officer and local commander was the Prefect of the Ala Herculea at Tamuda. This site has been identified: four kilometres west of Tetouan, on the south bank of the Rio Martin, is an almost square walled camp, which was clearly the headquarters of the Rif sector. The three other forts in this sector were probably a forward screen, and should be located to the south of Tamuda. Only one gives any hint of its position: Aulucos probably means "Near the River Lixus". It is unlikely that the town of Lixus itself needed a garrison, and there is no evidence to suggest the presence of one there. The River Lixus, however, penetrates much further into the interior than one might suppose. It would be on the upper reaches that the fort near the river Lucos was situated. Duga and Castrabariensis are quite unknown and at present must remain unlocated. They

may be in the region of Chauen, the sacred town of the Northern tribes of Morocco, or in the Talambot, where traces of Roman bridges have been found.

The western sector, along the Atlantic coast, was originally garrisoned by four units, of which the names of three remain. Two of these are second rate units named after the stations which they garrison. The third is an old unit dating from the Early Empire, and it would be reasonable to suppose that the commander of this unit acted as local commander when necessary. The Third Asturians do in fact hold the rearmost of the three forts whose sites are known. Tabernae or Lalla Djellalia is just north of the junction of the road from Tetouan with the road from Tangier to the south. Here is a most suitable place for an area commander, for he can communicate with the senior frontier-unit commander as well as with the Count (whose field army was probably based on Tangier). In front of his unit was the Friglensis at Friglas, a site which is more properly known as Frigidis and identified with the square enclosure at Soueir. Pacatiana, the other fort garrisoned by second rate frontier troops, is unknown; it may well be anywhere south of Tabernae. One likely place for it would be to the south-east, astride the interior road of the Antonine Itinerary. From this position it

could watch the road which skirts the eastern edge of the plain of the O.Loukkos. The fourth station, whose unit was not recorded but whose name remains on the insignia, is Sala. This is a well-known and identified town (municipium by the time of Pius, later a colonia) on the south bank of the Bou Regreg. Sala is well away from the remaining fort-sites of this sector, and there has therefore been considerable discussion about its inclusion in the Notitia list. There is little doubt, however, that Sala was garrisoned in the early fourth century, although there is no epigraphic evidence. It was probably its isolated position which led to its abandonment, just as in Britain the outpost forts North of Hadrian's Wall were abandoned by Count Theodosius and consequently omitted from the list of units "per linear Valli". It might be that Sala was occupied by a cavalry unit in the early fourth as it was in the second, and that the cavalry commander acted as local commander of the Western Sector. When, however, it became evident that it was difficult to exercise command from such an isolated position, the unit and its commander were transferred to another province, or amalgamated with the Ala Herculea, or became a unit of the field army. Whatever possibility is selected, it is probable that Sala was occupied for part of the fourth century. Its

retention on the insignia suggests that it played a considerable part.

The picture drawn by Chapter XXVI of the Notitia is not very helpful in elucidating the topography of Tingitania. Four of the forts can be easily identified and of the remainder, two remain impossible to locate with any certainty. One other has a likely situation and the last has a not improbable position.

Basically Chapter XXVI represents the state of the provincial frontier troops or at least the mobile units of the Tingitanan command, as it was after the reorganisation of this area carried out by the Emperor Maximian. It may even be his own situation report which successive Primicerii at Rome used throughout the fourth and early fifth centuries.

Map showing the garrisons of the mobile frontier troops of the Tingitana command.

The map is drawn from the Africa (Air) series on a scale of 1:500,000 and shows by means of black squares the known sites of the units mentioned in Chapter XXVI. Open squares indicate other fort sites which may have been occupied at this time.

Black squares:

Tamuco	Tamuda
Duga	
Castrabariensis	
Lucos	
Sala	Chellah
Tabernae	Lalla Djellalia
Friglas	Soueir
Pacatiana	

Open squares:

Thamusida
Sidi Aissa
Tocolosida
Ulpium
Sidi Kacem

THE NATURAL HISTORY OF THE ELDER PLINY

The main part of the Elder Pliny's account of Morocco is found in the first chapter of the fifth book of his Natural History, although references to Morocco can be found in other books of the same work. It falls naturally into seven divisions:-

1. The Civilised Area of the Province (Sections 2-5)
2. The Atlas Mountains according to various generally untrustworthy authorities (Sections 6-8)
3. The Atlas according to Polybius and Agrippa (Sections 9,10)
4. Other eyewitness accounts of the Atlas including that of Suetonius Paulinus (Sections 11-15)
5. The evidence of Juba II (Section 16)
6. The tribes of the province (Section 17)
7. The Mediterranean Coast (Section 18)

(The translation which follows is made from Mayhoff's edition 1906).

Two articles by M. Raymond Thouvenot, "La Connaissance de la Montagne Marocaine chez Pline L'Ancien" (Hespéris XXVI 1939 pp. 113-121) and "Défense de Polybe" (Hespéris XXV 1948 pp.79-92) have been extensively used in preparing this study.

1. The Civilised Area of the Province

2. First, the countries called Mauretania, which until the reign of C. Caesar, son of Germanicus, were kingdoms, but by his cruelty split into two provinces. The most outstanding promontory on the Ocean is called Ampelusia by the Greeks. Beyond the columns of Hercules stood the towns of Lissa and Cottae; now there is Tingi founded by Anteus and afterwards called Traducta Iulia by Claudius Caesar when he made it a colony.

3. By the shortest route it is thirty miles from Baelo, a town of Baetica - Twenty-five miles from it on the Atlantic coast is the colony Augusta Iulia Constantia Zilis which was exempted from the jurisdiction of the king and ordered to seek justice from Baetica. Thirty-five miles from there is Lixus which was made into a colony by Claudius Caesar, and which is the centre of the most extraordinary legends told by the ancients. There they located the kingdom of Antaeus, his fight with Hercules and the Gardens of the Hesperides. An estuary pours into the sea in sinuous windings which is supposed to have given rise to the story of the guardian dragons.

4. The estuary encloses an island, which is isolated and somewhat lower than the neighbouring land, but which is not submerged by the tide. On it stands an altar of Hercules, and wild olives instead of the celebrated gold-bearing grove. The exaggerated lies of Greece concerning this and the river Lixus are less surprising if one reflects that our writers very recently reported such equally extravagant ideas as that this city was greater than Carthage the Great; moreover that it is situated on the opposite side of the continent and as far from Tingi as Carthage, which story Cornelius Nepos very avidly believed.

5. Forty miles from Lixus into the interior is a second colony of Augustus, Babba, called Iulia Campestris, and a third seventy-five miles away called Banasa surnamed Valentia. Thirty five miles from there is the town of Volubilis equidistant from the sea on both sides. Fifty miles along the coast from Lixus is the River Sububus

magnificent and navigable, flowing beside the colony of Banasa. An equal distance from there is the town of Sala, situated on the river of the same name, already not far from the deserted places infested with flocks of elephants and even more by the tribe of Autololes through whose land is the way to the Atlas mountains, the most fabulous mountains of Africa.

Simple though this section is, it raises numerous questions. First, what happened to Lissa and Cottae? Has Cottae any connection with Cape Cotes mentioned by Ptolemy? Is Lissa the same as Ptolemy's Exilissa? To none of these questions can any definite answer be given. The coincidence of names suggests Exilissa is a re-foundation of Lissa and that Cottae is the settlement near Cape Cotes. Proof of the existence of a township near Cap Spartel is not yet published, but excavations along the coast to the south have revealed an industrial villa with associated outbuildings. Exilissa appears to be Alcazarseguer at the mouth of the Oued El Ksar. Neither site is commercially good, nor easily defended. It may well be that the establishment of Tingi on the straits midway between the two older settlements meant their death. If Cottae and Lissa are, as is probable, Phoenician trading stations it is difficult to understand why the Phoenicians neglected to establish themselves also at Tingi. Pliny seems to suggest that Tingi was established later than the other two settlements.

The distances which Pliny gives between the first three towns, Tingi, Zilis and Lixus agree well enough with the twenty-four and thirty miles of the Antonine Itinerary, although the former is still too small for the actual distance between Tangier and Arzila. Pliny's evidence supports the conclusion already arrived at, that Zilis was Dchar Djedid.

The juridical connection between Zilis and the province of Baetica is understandable. The order to that town to seek justice from Baetica, was presumably made by Augustus during his reorganisation of the empire, and it is assumed that the order applies to all the Augustan colonies. For if Roman citizens were to live, marry and trade in these new colonies, they could not be subject to a native king, however Hellenized he might be.

The remarkable island in the river Lixus which Pliny mentions as the site of the garden of the Hesperides has been absorbed by the accumulation of alluvial deposits. From its description it might be a floating island, a phenomenon which is not unknown. Pliny, however, seems to have regarded it as a Greek hyperbole, and suggests that it never existed.

More important, however, is the question of the whereabouts of Babba. Can it be the Baba of Ptolemy?

Despite the similarity of name this seems unlikely. The position of Baba (or Vaba on Ravennas' list) suggests that it was a town on the eastern route and Ptolemy's coordinates give a distance of 80 miles from Lixus. Pliny goes on to say that Banasa is 75 miles from Lixus. This is rather an overstatement and Pliny's third distance, 35 miles from Banasa to Volubilis is an underestimate. According to the Itinerary, Lixus to Babasa is 40 miles, and Banasa to Volubilis, (or rather from Tremulae which is approximately parallel to Banasa), is 70. Since the figures given by Pliny are demonstrably incorrect, it is pointless to look for Babba until they have been corrected.

The simplest solution is to transpose the two towns Babba and Banasa. This makes Babasa 40 miles from Lixus and Babba 75 miles from Banasa with Volubilis a further 35 miles. This corresponds with the known facts, and confirms the identification of Babba with a site near Khemichet. The problem of locating Babba has been complicated by several factors. The minting of coins at this town has at last been disproved, and identifications based upon bridges and fish can now be dropped. Likewise, now that Pliny has been shown to be wrong, there is no need to place Babba within a forty mile radius of Lixus. The objection to the identification of Babba which is here proposed, is that Khemichet is a long way

from the other centres of Roman colonisation. There is a further objection, namely that Ptolemy and Ravennas do not refer to Babba as a colony, but that objection applies equally to Banasa as well as Zilis.

It can, therefore, be confidently asserted that Babba and Baba are one and the same town. It is true that it is a long way from the sea, but it occupies an important place in the economy of Morocco. Just as Banasa serves as a collecting point for the lower Sebou plain, Babba is the collection centre for the valleys of the middle Sebou basin, as well as the terminal of the Taza route to Caesariensis. Its title, *Campestris*, need not be taken to mean that it is in the middle of a plain; it would be called *Campestris* by those who had crossed the Taza gap and wandered through the valley of the upper Sebou and Inanouene. Finally, Babba is according to Ptolemy's figures 31 miles from Silda. The road joining these two places presumably skirts the northern edge of the Djebel Tselfat and the road from Babba to Volubilis would follow the same course for the first ten miles and then cut southwards to Volubilis, either following the course of the modern roads or using the Bab Tizra.

The statement that Volubilis is equidistant from the two seas may seem at first sight to be a little rash, but comparison with Ptolemy's figures show that this idea was approximately correct. Ptolemy places Volubilis 2 degrees East of the Atlantic coast on latitude $33^{\circ} 40'$ N. and $1\frac{1}{2}$ degrees South of the Mediterranean coast on longitude $8^{\circ} 15'$ E. Since longitude in this area is 80% of the latitude the real difference between the two distances is only 6 minutes, a negligible amount.

Pliny's figures of 50 miles from Lixus to the mouth of the Sububus and 50 more to the mouth of the Salat confirm Ptolemy's version of the coastline. There is in fact a difference of 7 miles in the position of the mouth of the Sububus.

Pliny suggests that the Autololes lived in the area between Sala and the Atlas, but in section 17 (see 11-18) he names the Autololes as the strongest Gaetulian tribe. It is improbable that the Autololes inhabited the whole of the Moroccan meseta, and much more likely that they were a paramount tribe, whose permission was necessary for peaceful penetration into the Atlas mountains.

2. The Atlas mountains according to various untrustworthy sources.

They say that this rises to the sky from the centre of the sands; rough and bare where it faces the Ocean to which it gives its name; thickly wooded and watered by occasional fountains where it faces Africa, with fruits of all kinds growing of their own accord so that fulfillment is never lacking to desires.

During the day time not one of the inhabitants is seen; everything is silent just like the silence of the desert; a silent awe grips the spirits of those who approach nearer and moreover a horror of the summit stretching above the clouds and in the neighbourhood of the orbit of the moon. At night, they say, it sparkles with dusky fires; the dances of the Aegipani and the Satyrs take place to the sound of the tibia and the fistulae and with a rhythmic accompaniment of the tympani and the cymbals. These things well-known authors relate without mentioning the works of Hercules and Perseus in that area. The distance there, they say, is immense and unknown.

There is also the commentary of Hanno, the Carthaginian leader who, at the apogee of Carthaginian power, was ordered to explore the coast of Africa, from whose evidence, most of the Greek and most of our writers, amongst other legends, report that many cities were founded by him there, but no record or trace of them remains.

Pliny conscientiously inserts these details into his work, but his private opinion of the credibility of these sources is contained in the short but telling phrase 'alia quidem fabulosa'. It is probable, however, that the authors referred to by Pliny have misunderstood Hanno's commentaries and imagine him to be referring to the Atlas Mountains when he is really describing the

Guinea or Cameroon coasts. Certainly the reference to nocturnal fires and noises occurs when Hanno is well south of the Atlas. Most of this section, then, has nothing to do with Morocco and may be disregarded. There is no trace of fruit-trees growing without cultivation on the southern slopes of the Atlas, and the rushing streams probably never existed. That the coastline was bare and rough is probably true, and the forests reported may have since disappeared, but it is more probable that the forests described should be looked for in Senegal and Gambia.

3. The Atlas according to Polybius and Agrippa

When Scipio Aemilianus was conducting affairs in Africa, Polybius the Annalist was given a fleet by him to reconnoitre the bounds of the world. He reported that from the western end of the Atlas, woods full of the wild animals which Africa produces, stretch to the River Anatis, a distance of 496 miles, and that from there to Lixus was 205 miles. Agrippa puts Lixus 112 miles from the Straits. From there (i.e. Lixus) is a bay called Sagigi, a town on a promontory Mulelacha; the Rivers Sububa and Salat, the harbour of Rutubis 224 miles from Lixus. Then comes the promontory Solis, the harbour Rhysaddir, the Gaetuli Autololes, the River Quosenum, the tribes Selatiti and Masati; the River Masatat; the River Darat in which crocodiles live.

Then a bay, at 616 miles which is called Surrentium, enclosed by the mountains Bracae on a promontory running out into the west; after this the river Salsum beyond which live the Aethiopian Perorsi with the Pharusii at their back. To these are joined in the hinterland the Daras Gaetuli. On the coast are the Daratite Aethiopians, the river Bambotum, filled with crocodiles and hippopotami. From there run the Everlasting Hills which we call Theon Ochema. From there to the promontory Hesperis is a voyage of ten days and nights in the middle of which he places the Atlas, reported by all other writers at the limit of Mauretania.

M. Raymond Thouvenot in his "Défense de Polybe"

(Hespéris XXXV 1948 pp. 79-92) suggests that most of this account is derived from Polybius and regards as an interpolation, the distance between Lixus and the Straits.

Professor J.O. Thomson (History of Ancient Geography, pp.183-4) is less certain; for him the source for this passage is still disputed.

There is an inherent difficulty in accepting the whole of this passage as derived from Polybius, which arises from the respective positions of Rutubis and the River Anatis. If the figures given are correct, then Rutubis is 19 miles south of the Anatis. Ptolemy makes Rusibis 20 miles north of the Asana (though, in fact, they are equated). The best solution seems to be that the two figures come from two accounts, Polybius' being taken first and then Agrippa's.

Polybius, in fact, has very little to say, as he did not venture far. The western end of the Atlas, presumably Cap Ghir was the limit of his reconnaissance. Between there and the Anatis (Oum er Rbia), the coast was wooded and full of wild animals, which may indicate that Carthaginian settlements, now authenticated, enjoyed only a short life. The only other notable feature which Polybius mentions is Lixus, though Pliny may have used Polybius' material in preparing the earlier sections.

Agrippa's voyage seems to have been longer as well as more detailed. He starts from Lixus, which he puts at 112 miles from the Straits (i.e. Cadiz) a statement which is corroborated by Ptolemy. Sagigi bay is Ptolemy's Emporicus gulf, and refers to the now filled-in estuary of the Sebou. The town on the promontory, Mulelacha, is thought by Thouvenot to be Moulay bou Selham, but this

was not and is not a promontory, though there may be remains there. The more probable site is Mehdiya, where no remains have yet been found of the Roman or pre-Roman epoch, but which would be on a promontory if the estuary of the Sebou was as wide as Ptolemy and Pliny make it out to be. The River Sububa and the River Salat are mentioned together although the former, the Oued Sebou, entered the Atlantic north of Mulelacha and the latter, the Oued Bou Regreg, entered the sea to the south. South of the River Salat was the harbour of Rutubis at a distance of 224 miles from Lixus.

It is noteworthy that Agrippa does not mention the River Asana, or Anatis; this is probably not because he did not know about it, but because the harbour of Rutubis was in fact the estuary of the Anatis. The evidence for this comes from the next section of Pliny, where he says that the Asana enters the sea 150 miles south of Lixus 'but with a wonderful harbour'. Allowing for the fact that 150 miles is only a rough estimate, and not an exact figure, this wonderful harbour can only be Rutubis, which must therefore be Azemmour at the mouth of the Oum er-Rbia.

Cape Solis is Agrippa's version of Cape Soloeis, identified as Cap Cantin. Rhysaddir seems likely to be Safi which has a deep-water anchorage.

South of Rhysaddir, Agrippa mentions three rivers, the Quosenum, the Masatat and the Darat. It is usual to regard the Darat as the Oued Draa, but if this identification is accepted, it follows that Agrippa must have sailed as far as Senegal, because there are two more rivers to fit in. This is impossible for ten days and nights sailing. It appears from Scylax that a day and a night's sail amounted to $11\frac{1}{2}$ miles. Agrippa therefore considers that Lixus is one day-and-night's sail from Cadiz, and that Rutubis is twice that from Lixus. The bay which he mentions at the start of section 10 is $\frac{3}{2}$ day-and-night's sail from Rutubis, and since the Atlas is in the middle of the ten day-and-night's sail, the bay must be south of the Atlas, but not too far. In fact, the bay in question, is the gulf into which the Oued Sous flows. The Darat cannot therefore be the Oued Draa for this is south of the bay; it must be the Oued Sous. The Quosenum is identified as the Oued Tensift, and the Oued Masatat as the Oued el Ksob which is a minor stream, and flows into the Atlantic near Mogador.

The Gaetuli Autololes lived between Rutubis and Rhysaddir, the Selatiti around the Oued Tensift and the Masati near Mogador.

The bay of Surrentium enclosed by mountains is $\frac{5}{2}$ day-and-night's sail from Lixus which is $\frac{1}{2}$ day-and-night's

sail from the Cap Spartel. Agrippa's furthest is therefore 4 day-and-night's sail from Surrentium, which is fairly close to Cape Juby. Between the Oued Sous and Cape Bodajor, there are two rivers to which Agrippa refers, but there is only one large stream, the Oued Draa. Whether this is the Salsum or the Bambotum is uncertain. It seems more likely to be the Bambotum although there are no traces of crocodiles or hippopotami in it now. Perhaps Agrippa was trying to find some known animal to which the stories that the natives told him might be related. The Salsum (probably Ptolemy's River Sala), is likely to be the Oued Noun which is supposed to have a Phoenician settlement at its mouth.

The Braca mountains which enclose the bay are said by Agrippa to stand on a promontory running out to the west. It must be assumed that the mountains are in fact the High Atlas, which certainly overshadow the port of Agadir, and that the promontory running out into the west is Cap Ghir. This is the northern side of the bay of Surrentium into which the Oued Sous flows.

Agrippa's account seems to be a little jumbled, either purposely by himself or accidentally by Pliny, though in fact it is quite reasonable. Agrippa is listing the rivers and mentions the Darat (Oued Sous) first, then the bay Surrentium, (into which it flows),

and the mountain and promontory (which forms the northern side of the bay). He goes on to mention the Salsum, which is south of the bay and the names of the tribes which live in the area. Notice the order in which he mentions the tribes; the Perorsian Aethiopians, whom he names first, live beyond the Salsum; that is to say in the coastal Anti-Atlas: at the back of the Perorsi are the Pharusii, occupying the desert side of the Anti-Atlas: next to them in the hinterland, but on the north are the Daratite Gaetuli, who live in the upper valley of the Oued Sous; the Daratite Aethiopians are their neighbours in the lower valley of the Oued Sous. This brings Agrippa back to the coast, and so he finishes off by mentioning the Bambotum, and the Everlasting Hills, which are also called Theon Ochema. These must be the Anti-Atlas which run parallel to the coast for some distance.

Promontory Hesperis cannot be the same as Ptolemy's Cape Hesperis (IV;iv;2) for this is too far south. In addition Agrippa says that the Atlas is half way between Theon Ochema and Cape Hesperis. Since the position of the Atlas has already been established, Cape Hesperis must be at the northern end of Tingitana. It is very probable that Agrippa was referring to Cap Spartel, with which cape most accounts of Tingitana start.

4. Other eyewitness accounts of the Atlas

The Roman armies fought in Mauretania for the first time in the principate of Claudius, when Aedemon, the freed man, tried to avenge the death of the king Ptolemy at the hands of Caius Caesar, and in pursuing the fleeting barbarians, it is certain that they reached the Atlas mountains. The glory of penetrating the Atlas belongs not only to consulars and generals from the senate, who were at that time in charge, but also to the equestrians who from that time on were in command there.

There are as we have said five Roman colonies in that province, and by tradition it can be regarded as accessible (from them), but frequently that tradition is proved extremely false by experience; because the dignitaries, if to investigate the truth is irksome, are not ashamed to lie to cover their ignorance; in addition there is a greater disposition to fall from truth, when the author of the false report is a man of repute. But indeed I am astonished that fewer facts are not discovered by the men of the equestrian order, even when much later they enter the Senate, than the luxuries, whose force is felt with its strongest effect, for then the forests are searched for ivory and precious woods, and all the rocks of Gaetulia for the shell-fish and the purple.

The natives, however, say that on the coast 150 miles from the Salat, the river Asana drains into the sea but with a wonderful harbour; next is the river which they call Fut, and from there to Dyris, which is in effect the name of the Atlas in their language, is 200 miles, in which interval there is a river whose name is Vior. Thereabouts are a few traces of once-inhabited ground, the remains of vineyards and palmgroves.

Suetonius Paulinus, (whom we saw a consul) the first Roman leader to cross the Atlas completely, reported on its height, (as did all the others), and that the lower slopes were covered with dense tall woods of an unknown species of tree with a remarkable tallness, free of knots, leaves like the cypress, and

moreover with a heavy scent, and covered with a light down, from which one can with skill make garments like those made from silk, and that the peak is covered even in summer by deep snow.

In ten days he arrived there from his camp, and marched beyond to the river which is called Ger, through deserts of black dust with outcrops at times like burnt rocks, places uninhabitable through heat even in winter. Those who inhabit the nearest woodlands filled with elephants, wild beasts, and serpents of all kinds, are called Canarii; naturally the life of this animal is without distinction among them and they share the entrails of wild beasts.

No modern commentator has yet satisfactorily located the route which Suetonius Paulinus followed but the general consensus of opinion is that he started from Mauretania Caesariensis. But since Pliny uses him in this section on the Atlas, it is more likely in view of Pliny's previous remarks, that his route started in Tingitana. In addition, the fact that he reports snow on the peaks even in midsummer, while his journey took place in midwinter, suggests that Paulinus either spent longer than ten days on his return or made several trips. Likewise the remark that the Roman forces reached the Atlas in pursuit of Aedemon and his troops, seems to indicate that Suetonius, the first leader, and presumably in command against Aedemon, (coupled with the inscriptions from Volubilis recalling the part played by Valerius Severus in this same revolt), started

from Volubilis, where Aedemon had been repulsed, and pursued him through the Atlas. This is the traditional view which has been questioned by some writers. The habits of the Canarii seem very odd and it has been suggested that in fact they were baboons. Considerable changes in fauna have taken place since Suetonius' expedition, for elephants are no longer found in the Atlas.

The Asana is the Anatis of Polybius' account and the Fut and Vior the Quosenum (O. Tensift) and Masatat (O. el Ksob) of Agrippa. The difference in name is the difference of time during which tribes may have migrated and new names been given, or it may be that Agrippa was given names by his guide who, like the equestrians that Pliny complains about, was not ashamed to lie in order to cover up his ignorance of the truth.

The traces of vineyards and palmgroves suggest exploitation by the Carthaginians, and traces of their settlements have been found along the coast from the Oumer-Rbia as far as Cap Ghir. (A. Luquet, "Prospection punique de la côte Atlantique du Maroc" *Hespéris* XLIII 1956 pp.117-132).

5. The evidence of Juba II

The frontier with the neighbouring Aethiopian tribe, whom they call the Perorsi is well established. Juba the father of Ptolemy who was the first to reign over both Mauretaniae and who is remembered more for the brilliance of his studies than for his rule, recorded similar details about the Atlas, and that there grows a herb called Euphorbia called after its medical discoverer, whose milky juice he makes known with admiring praise, devoting an entire book to its value in brightening the sight and against serpents and all poisons.

Juba in fact confirms what has already been said about the Atlas and adds the details of an indigenous plant with therapeutic qualities.

6. The tribes of the province.

The province of Tingitana is 170 miles long. Most people called the tribe in the province - at one time chiefly a land of Mauri, whence the name - Maurisii. Decimated by wars this tribe is reduced to a few families. Their neighbours were the Masaesyli, but they in a similar way have become extinct. The Gaetuli hold their land, the Baniurae and by far the strongest the Autololes. Of these at one time part, the Vesuni, having turned away from them have made their own tribe, next to the Aethiopiāns.

Pliny presumably means the Roman province rather than the whole land when he writes that it is 170 miles long, but when he writes of the tribes he must be thinking of the whole country. Of the tribes, the Gaetuli and the Autololes were recorded by Agrippa to the south of the Anatis. Presumably to the north were the Maurisii and the Masaesyli, but internal warfare as well as external enemies, perhaps the Autololes, had reduced those two tribes to a mere handful and the Autololes had pushed northwards to occupy the region south of Sala where, as Pliny said earlier, they were more trouble than the elephants. The Baniurae are probably the Baniubae who, according to Ptolemy, live to the east of Volubilis. Perhaps their name means the sons of Iuba, which might account for their presence around Juba's western capital of Volubilis, and for their

greater degree of civilisation. Certainly they were less trouble than the Autololes. The territory of the Vesuni is likely to be between the O. Tensift and the O. Sous where they would be in contact with the Aethiopians.

7. The Mediterranean Coast

The same province, mountainous in the east produces elephants; also on Mount Abila and on the hills which they call the Seven Brothers on account of their similar height, which together with Abila dominate the Strait. Here begins the shores of the inland sea. The river Tamuda is navigable and once even had a town; the river Laud, itself capable of receiving ships; the town and harbour of Rhyssadir; the navigable river Malvane.

Most of this section is straightforward. Pliny does, however, suggest that not only do elephants live in the east of Tingitana, but that they can also be found on the slopes of Abila and Seven Brothers. All the sites have been identified. Abila is Monte Acho, Septem Fratres is Djebel Moussa, and together they dominate the eastern end of the Straits of Gibraltar. Tamuda has been found on the bank of the Rio Martin; it seems to have been abandoned when Pliny wrote. Oued Lau retains most of its Latin name. Rhyssadir is Melilla and the Malvane, the boundary river, is the Moulouya for Pliny, though it is the Oued Kiss according to the Antonine Itinerary.

The impression which one gains from this account of the Mediterranean coast is one of desolation. Both Ptolemy and the Itinerary give far more details than Pliny. Pliny, however, was much more interested in the Atlas than in the dangers of coastal navigation and one

must not assume from his brief sketch that settlements on this coast suffered economic distress sometime in the first century A.D. - though this is always possible.

Pliny also mentions Morocco in:-

Book V 51-52

The Nile has its origin (as Juba II was able to find out) in the hills of lower Mauretania not far from the Ocean in an always stagnant lake which they call Nilis. In it are found alabetae, coracini, and the sheatfish; also a crocodile which for this reason was dedicated to Isis at Caesarea and may be seen there today. Moreover it has been observed that the Nile floods in proportion as the snow and rain satiate Mauretania. Flowing out of this lake it refuses to flow through the sandy and rough country and hides itself for a journey of some days.

Book VI 202

There is no confirmed report of the islands of Mauretania. It is agreed only, that there are a few opposite the Autololes found by Juba, on which he established a dye-works for Gaetulian purple.

Book XIS 63

For example there is a mallow tree in Mauretania on the estuary of the town of Lixus, where they say the gardens of the Hesperides were, at 200 paces from the sea next to the temple of Hercules which is more ancient than that of Cadiz, so they say. It is 20 feet high and of a girth which no one can embrace.

Pliny here adds three stories to what he has already said about Tingitana. The first legend, which persisted until Livingstone's travels, was that the Nile rose in the Atlas Mountains. They were, of course, the only suitable mountains in which such a great river might arise, for the Romans had no information about the highlands of East Africa. Happily one may now disregard Juba's theory.

The Purple Islands appeared, a few years ago, to be mythical or at least unidentifiable. Despite scientific arguments, the rapidly disappearing traces of Roman occupation on the islands in the bay of Mogador appear to be suitable for a dye works. The identification of the Isles Mogador with the Purple Islands is upheld by J. Desjaques and P. Koeberlé in their article, "Mogador et Les Isles Purpuraires", (*Hespéris* XLII 1955 pp. 193-202).

The Mallow tree at Lixus, judged by English standards, was a giant.

Map to illustrate the Elder Pliny's Natural History

The map is drawn from the Third Edition Army/Air style map of North Africa on a scale of 1:2,000,000. It includes the following towns and natural features.

Babba Campestris	Khemichet
Banasa Valentia	Sidi Ali bou Djenoun
Cotta	Ras Achakkar
Lissa	Alcazarseguer
Lixus	Tchemmich
Mulelacha	Mehdia
Rutubis	Azemmour
Rhyssadir	Melilla
Sala	Safi
Tamuda	Chellah
Tingi Traducta	Tamuda
Volubilis	Tangier
Zilis Constantia	Ksar Paraoun
	Dchar Djedid
Abila	Monte Acho
Ampelusa	Cap Spartel
River Anatis	Oued Oum er Rbia
River Bambotum	Oued Dra
Mount Bracae	Cap Ghir
River Darat	Oued Sous
Dyris mountains	High Atlas
River Fut	Oued Tensift
River Ger	Oued Gir
Hesperides	-----
Cape Hesperis	Cap Spartel
River Laud	Oued Lau
River Lixus	Oued Loukkos
River Malvane	Oued Moulouya
River Masatat	Oued el Ksob
Cape Mulelacha	Mehdia
River Quosenum	Oued Tensift
Sagigi Bay	-----
River Salat	Oued bou Regreg
River Salsum	Oued Noun
Septem Fratres	Djebel Moussa
Cape Solis	Cap Cantin
River Subur	Oued Sebou
Surrentium	Bay of Agadir
River Tamuda	Rio Martin
River Vior	Oued el Ksob

THE GEOGRAPHY OF POMPONIUS MELA

Mela's account of Morocco is on the whole much less accurate than might have been expected in view of the fact that he came from the nearby province of Baetica. It is divided into two parts:

1. The Straits of Gibraltar and the Mediterranean Coast from Book I Chapter 5.
2. The Atlantic Coast and the Interior, from Book III Chapter 10.

The translation, each section of which precedes the critical commentary, is made from C. Frick's edition (Leipzig 1880) of 'De Situ Orbis'.

1. The Straits of Gibraltar and the Mediterranean Coast.

The Ocean which touches our lands from the West is called the Atlantic. To those sailing thence into our Sea, Spain is on the left, Mauretania on the right; the former is the beginning of Europe, the latter of Africa. Of that coast the Mulucha is the end. The end and beginning is the promontory which the Greeks call Ampelusia, the Africans call it otherwise but with the same meaning. On it a cave sacred to Hercules, and beyond the cave, Tingi, a very old town said to have been founded by Antaeus. Proof of this remains, namely an enormous round shield of elephant-hide which nobody can use on account of its size; which the inhabitants of those areas hold and believe was carried by him, for which reason they venerate it greatly. Then there is a very high mountain facing the one which rises on the opposite shore in Spain. This they call Abyle and the other Calpe. Together they form the Columns of Hercules. Common report adds a legend to this name, that Hercules himself separated the hills which were once a continuous range, and that the Ocean which up to that time had been excluded by the mass of the mountain was let in to those shores which it now washes. From this point the sea spreads out more widely and with great force pushes the lands farther away. Furthermore, the region is undistinguished and produces scarcely anything remarkable; the inhabitants live in small towns; it is watered by small rivers; its soil is better than its men and so the laziness of the race is hidden. From this region, however, what must be recorded is that there are high mountains interconnected and, as if on purpose, placed in rank, which are called the Seven (on account of their number) Brothers (on account of their similarity).

There is the river Tamuada, and Ruscada and Siga which are small cities, and a harbour which is called Great on account of its extent. That river, the Mulucha, of which we have already spoken, separated today the peoples where once it separated the two kingdoms of Bocchus and Jugurtha.

There is no better starting point for a description of the Mediterranean and the countries which surround it than the Straits of Gibraltar, and it is not surprising

that Mela begins his Geography here. Proceeding from the Atlantic, he names first Ampelusia, the promontory which begins the Straits, and mentions that on it there is a cave sacred to Hercules. In fact the cave which local tradition (French) ascribes to Hercules is somewhat to the south of Cap Spartel and it is now used as a quern quarry (E. Cecil Curwen, *Antiquity* no.119 p.174). Beyond Cap Spartel lies the town of Tingi, the only place which Mela mentions in this section. At the other end of the Straits is the African column of Hercules, Abyla, facing its partner, Calpe, the modern Rock of Gibraltar. The legend which Mela records, has in fact some basis, for the two mountains were originally part of the same range. Mela uses a neat metaphor to explain to his readers the conformation of the coast inside the straits - but it is not, unfortunately, true.

The hinterland of this area is undistinguished, (as Mela's word 'ignobilis' is best rendered), except for the Djebel Moussa for whose name, Septem Fratres, Mela gives full reasons. A region of small towns and small rivers with a fertile soil and lazy inhabitants, is a description which might almost apply at the present time, for it is very hilly, and although the soil is fertile, it does not occur in sufficiently large areas to support a large urban population. Today, settlement is sparse

and scattered in small communities on the sides of the valleys. Cereals are grown in the valley bottoms and sheep and goats are pastured on the hill sides. There are a few trees, though there may have been more in Roman times.

Of the Mediterranean coast Mela says little Tamuada and Pliny's Tamuda are easily equated. The Mulucha, likewise, is easily identifiable as the Molochath of Ptolemy and the Oued Moulouya. The Great Harbour is without doubt the Harbour of Russader, a large lagoon almost enclosed by a sandspit and protected from all westerly winds by the great mass of the hill behind. Rusgada is identifiable as Russader of Ptolemy and the Antonine Itinerary. Siga is not otherwise known in Tingitana, and Pliny mentions Siga (V;i;18) after the River Malvane, indicating that it belongs to Caesariensis.

2. The Atlantic Coast

There remains the outer coast of Mauretania and it ends Africa with a sharp point. It has the same resources but is less rich. On the other hand the soil is richer and so fertile that it not only produces most abundantly various kinds of leguminous plants when they are sown, but also it pours forth those which are not planted. Antaeus is said to have reigned here and (a sign that the story is absolutely true) a hill of moderate height in the shape of a man lying on his back is pointed out which the inhabitants assert is his tomb. In this area when any part is dug, showers are accustomed to fall and continue until the holes are filled with water.

Some of the inhabitants live in the woods and are less nomadic than those whom we have just mentioned; some live in cities, of which those which are considered to be most wealthy among small cities are Gilda, Volubilis, Prisciana, which are far from the sea, and nearer to the coast Sala and Lixos which stands on the river Lixus.

Beyond is the colony (.....) and the river Gna and thence we return to where we started, Ampelusia, the promontory turning the strait into Our Sea, which is the end of this work and the Atlantic shore.

The area which Mela is here describing, is the fertile triangle which is so often called the heart of Morocco. Here in the lower reaches of the Sebou is the most fertile region of a fertile country. Rational explanations of most of the phenomena reported by Mela are easy to arrive at. The hill of moderate height was probably on the only point in the neighbourhood which was high enough to stand above the periodic floods and as such would deserve veneration. The water in the holes

is less likely to be the result of constant showers, than the river water flowing through the low and almost marshy land.

The woodlanders find a most convenient home in the Forest of Mamora and indeed there would be little impulse to wander from their sylvan life. The villages are dotted over the countryside; there are five important villages, which Mela calls cities. Sala and Lixos would be wealthy because of their situation at the mouths of rivers bringing trade to and from the hinterland. Volubilis is wealthy because of its association with Juba, and its position on a fertile plateau; Gilda and Prisciana, neither so far excavated, would seem to have obtained their wealth by virtue of their inland trading position, Gilda on the Oued Beth and Prisciana on the Oued Sebou.

But much more significant than this are Mela's omissions, and these in fact deserve a chapter to themselves. In this area he makes no mention of the river Subur nor of the important colonies of Banasa and Babba. It is worth noticing also that Mela equally does not call Tingi a colony. It may well be that he never visited the area himself, and relied instead upon an account written in the days of Bocchus, before the Romans interested themselves in this area.

The River Gna, however, which he does mention is not likely to be Ptolemy's Agna for this is too far south. It is less likely to be the Sebou than the Oum er Rbia, for Mela says that the Gna is beyond the area (which includes Sala). The Gna is not mentioned by other Roman writers and it may be assumed to be outside the boundaries of the province. It is true that Pliny calls the Oum er Rbia Anatis or Asana, but some rivers have more than one name and there is no reason to credit Mela's source with infallibility, nor Mela with accuracy; he seems to be rather apathetic towards his project by the time he reaches the end.

The colony at the mouth of the Gna is not a Roman colony for the evidence suggests that the four Roman colonies were established after Mela wrote. It must, therefore, be a pre-Roman colony and the most likely name is Thumiateria, a colony which was established by Hanno in the course of his trading voyage, probably at Azemmour. This is more likely than the emendation of Zilis proposed by Roget. The argument in favour of Zilis is based on the ancient connection between that town and Baetica from which province Mela came. Against this is the fact that all the Augustan colonies were connected to Baetica and Mela does not mention any of them.

Mela's account antedates the other Roman accounts of Tingitana and is valuable for this reason, since it gives a picture of the province before the end of the Civil War and the establishment of the client-kingdom.

Before the foundation of the Augustan commercial colonies, Tingitana was a land of small villages set in a fertile landscape. The abundance of the crops led to the establishment of entrepots where the natives, too lazy to organise their own export trade, could bring their annual surplus to the eventual benefit of the Roman commissariat.

Map to illustrate Mela's 'de situ Orbis'.

The map is drawn from the Third Edition Army/Air style map on a scale of 1:1,000,000, and contains the following places mentioned by Mela.

Gilda	Sidi Slimane
Lixus	Tchemmich
Prisciana	Mechra bel Ksiri
Rusgada	Melilla
Sala	Chellah
Colonia (-----)	Azemmour
Tingi	Tangier
Volubilis	Ksar Pharaoun
Abyla	Monte Acho
Ampelusia	Cap Spartel
River Gna	Oued Oumer Rbia
River Lixus	Oued Loukkos
River Mulucha	Oued Moulouya
Septem Fratres	Djebel Moussa
River Tamuda	Rio Martin
Great Harbour	Melilla

GEOGRAPHY OF STRABO

Strabo, although he was the most prolific writer on this subject, has been left almost to the end, for his work suffers from many defects. He might in fact be called a 'scissors and paste' geographer, because references to earlier writers can be found in his work. Unfortunately, he was not content with just collecting his material and presenting his readers with a neat précis followed by his own comments; instead he jumbled everything up into one confused mass, which he made worse by being uncritical of his sources. Consequently one must be careful, in making sense of Strabo's work, not to confuse the issue still further. This work, like Mela's, was written shortly before the opening of the Christian era, and fails to mention the Augustan colonies. It is clear that he was not using up to date sources.

The translation of the sections dealing with Morocco is from H.L. Jones, Loeb edition 1929.

XVII; III; 2. Here dwell a people whom the Greeks call Maurusians and the Romans Mauri - a large and prosperous Libyan tribe, who live on the side of the strait opposite Iberia. Here also is the strait which is at the pillars of Hercules, concerning which I have often spoken. On proceeding outside the strait at the Pillars, with Libya on the left, one comes to a mountain which the Greeks call Atlas and the barbarians Dyris. From this mountain projects a further spur, as it were towards the west of Maurusia - the Coteis, as it is called; and nearby is a small town above the sea, which the barbarians call Trinx, though Artemidorus has given it the name Lynx and Eratosthenes Lixus. It is situated across the strait opposite Gadeira at a distance of 800 stadia which is about the distance of the two places from the strait at the Pillars. To the south of Lixus and the Coteis lies a gulf called Emporicus which contains settlements of Phoenician traders. Now the whole of the coast continuous with this gulf is indented with gulfs, but one should exclude from consideration the gulfs and the projections of land in accordance with the triangular figure which I have suggested and conceive rather of the continent as increasing in extent to the direction of south and east. The mountain which extends through the middle of Maurusia from the Coteis to the Syrtes is inhabited, both itself and the other mountains which run parallel with Maurusia at first by the Maurusians but deep in the interior by the largest of the Libyan tribes who are called Gaetulians.

Strabo's first sentences are unexceptionable, but as soon as he goes beyond (rather than 'outside') the strait at the Pillars he runs into trouble. Dyris, so Pliny relates, is the barbarian name for the Atlas, but it occurs 350 miles south of Sala. When Strabo talks of the Atlas mountain in connection with the straits, he is presumably referring to the Djebel Moussa, which he also refers to later on. The western extension of this mountain is according to Strabo called Coteis, a name which Ptolemy also uses. We are told by Mela and Pliny

that the Greeks called this Ampelusia, and it is certainly strange in view of his origin that Strabo did not use the Greek name. The small town above the sea is an apt description of Tangier some 2000 years ago, but Strabo confuses the issue by assuming that Eratosthenes meant Trinx when he wrote Lixus. The distance which Strabo gives from Tangier to Cadiz is obviously too great, but it is slightly less than Agrippa's figure for the distance from Lixus to the Straits. In fact, Lixus is barely fifty miles from Cap Spartel, but the distance from Cap Spartel across the strait to Cadiz is rather more than fifty. Thus when Agrippa says that Lixus is 112 miles from the Strait, he must mean that it is 112 miles from Cadiz, and Strabo likewise means that it is 800 stades from Cadiz to Lixus, although he writes "Trinx". When he continues "to the south of Lixus" he really means Tangier, for Coteis is too far from Lixus to be coupled with it in any other writer's imagination. Emporicus gulf has already been discussed in the section of Ptolemy, but it is as well to note that the presence of Phoenician merchants along this coast is attested by Strabo, where other and later writers do not mention it. The rest of this section is caught up in Strabo's idea of the shape of the African continent, but it must be pointed out that Strabo guessed or realised that the Moroccan mountains

are not isolated features, but part of a range which runs the length of North Africa. Furthermore, he makes a clear distinction between the Maurusians, who live on the northern side of the Atlas and the Gaetulians, who live further in the interior.

3. The historians beginning with "the Circumnavigation of Orphelas" have added numerous fabrications in regard to the outside coast of Libya and these I have already mentioned before but I am again speaking of them asking pardon for introducing marvellous stories if perchance I shall be forced to digress into a thing of that sort, since I am wholly unwilling to pass them over in silence and in a way to cripple my history. Now they say that Emporicus gulf has a cave which at the full tide admits the sea inside for a distance of even seven stadia and that in front of this gulf there is a low level place containing an altar of Heracles which they say is never inundated by the tide; and nearly as bad as this is the statement that on the gulfs which come next after Emporicus' gulf there were ancient settlements of the Tyrians, now deserted - no fewer than three hundred cities which were destroyed by the Pharusians and the Nigritae; and these people they say are at a thirty days journey from Lixus.

Strabo's apology for introducing stories which are hardly credible precedes two items, which he plainly considers to be complete fabrications. The second, however, is mentioned by Pliny (V; i;4) and has already been discussed. The first is less explicable. If Strabo had followed his source material correctly, he might conceivably be referring to the main drain of the town of Lixus, which flooded at high tide; or there might be somewhere along the coast a cave of such dimensions that it might give rise to the legend, or it might be a lagoon. Strabo considers his third item, the presence of coastal cities, less incredible; and if one remembers that the Carthaginians came originally from Tyre, confirmation can be found again in Pliny (V;i;8): "many cities were founded by Hanno there but no record or trace of them

remains". What Strabo means by thirty days' journey is uncertain; in actual figures, at twenty miles to the day, it represents 600 miles, but it is more probable that thirty days' journey means a very long way, just as seventy times seven means for ever. Since Strabo does not believe in the existence of these Tyrian cities, it would not be fair to infer that the Pharusians and Nigrites were in the habit of making long distance raids on the colonists.

4. However it is agreed by all that Maurusia is a fertile country except a small desert part, as it is supplied with both lakes and rivers. It is surpassing in the size and number of its trees and is also productive of everything; at any rate, this is the country which supplies the Romans with the tables that are made of one single piece of wood very large and variegated. The rivers are said to contain crocodiles as also other kinds of animals similar to those of the Nile. Some think that even the sources of the Nile are near the extremities of Maurusis. And they say that in a certain river are found leeches seven cubits long with gills pierced through with holes through which they breathe. They also say of this country that it produces a vine so thick that it can hardly be encircled by the arms of two men and that it yields clusters of about one cubit (i.e. in length). Every herb grows high and every vegetable as for example arum and dracontium and the stalks of staphylini and the hippomarathi and the scolymi grows twelve cubits high and four palms thick; and for serpents also and elephants and gazelles and bubali and similar animals as also for lions and leopards the country is a nurse in every way. It also produces ferrets equal in size to cats and like them except that their noses project further; and also a great number of apes concerning which Poseidonius states that, when he was sailing from Cadiz to Italy he was carried close to the Libyan shore and saw on the low lying shore a forest full of these animals, some in the trees and others on the ground and some having young and suckling them; that he fell to laughing however when he saw some with heavy udders, some with bald heads and others ruptured or displaying other disabilities of that kind.

In this and the next section, Strabo gives some interesting details of the flora and fauna of Morocco, but it is difficult to be precise in one's identification of his animals and plants, for not only is his own terminology rather vague, but there is not at the moment a readily available flora and fauna list for Morocco. The reference to tables made from a single piece of wood recalls Pliny's story of the mallow tree near Lixus, and it is

from Pliny that confirmation comes. In XXIX,91, Pliny mentions citrus wood tables

'mensarum quas feminae viris contra margaritas regerunt' and especially

'uni commissae ex oribus dimidiatis duobus a rege Mauretaniae Ptolemaeo quattuor pedes et semipedem per medium ambitum crassitudine quadrantali'

"The material is an excrescence of the root and is very greatly admired when it grows entirely underground and so is more uncommon than the knobs that grow above ground on the branches as well as on the trunk; and the timber is in reality a disease of the trees, the size and roots of which can be judged from the circular table tops. In foliage scent and appearance of the trunk, these trees resemble the female cypress which is also a forest tree."

Nor is this all Pliny's information, for he tells us also that

'Ancorarius mons vocatur Citerioris Mauretaniae qui laudatissimam dedit citrum iam exhaustus'.

It may be, therefore, that Strabo was wrong in crediting Morocco with the citrus trees which gave the Romans their most variegated tables; it would appear that mons Ancorarius, the most productive centre for table-tops was in Nearer Mauretania, that is to say the modern Algeria.

Pliny also confirms the existence of crocodiles in Morocco. Strabo, rightly however, does not consider that this is sufficient evidence to prove that the source of the Nile was in the Atlas range.

Strabo's ten-foot leech, which occurs in only one river, sounds like a true piscatorial triumph. It might be a lamprey (except that lampreys have no gills) and if a second choice is wanted to account for the length, there is the moray, a tropical and sub-tropical member of the eel family which might exist in a salt-water river or tidal estuary.

The vine with the thick trunk and enormous cluster of grapes is less likely to be a member of the grape than of the hop family. The latter includes such plants as the breadfruit tree of the Pacific and the iroke or African teak from West Africa, as well as our own native hop. The five herbs and vegetables which Strabo mentions are also mentioned in Pliny's Natural History. There we find that dracontium is a generic term for various types of arum (Pliny N.H. XXIV 142). The arum which Strabo refers to might be the arum maculatum found in our own hedgerows or the arum italicum which is very similar to the cuckoo pint (Pliny N.H. XXIV 142-8). Dracontium could be the edder wort, arum dracunculus (Pliny N.H. XXIV 150), or one of two dragon-worts found in the Mediterranean area. There is also a slight possibility that Strabo is referring to the Indian Lotus, nelumbo nucifera. Staphylinus is the cultivated carrot, daucus carota (Pliny N.H. XXIV 112). Strabo might mean the root rather than the stalk (kauloi). Hippomarathus, the horse-fennel, is prangos

ferulacea (Pliny N.H. XXIV 225-8) and scolymus, the edible thistle, is scolymus hispanicus (Pliny N.H. XXIV 262-3) of which^{the}/root can be eaten when it has been boiled.

Strabo mentions eight animals by name and most of these are well-known; the serpent, the elephant, the gazelle, the bubal hartbeest, the lion, and the leopard are straightforward identifications. Pinemartens and polecats both belong to the ferret family and both reach the size of cats. The apes which Poseidonius saw on his way from Gadeira (Cadiz) to Italy were barbary apes, which have now been almost exterminated on the North African shore, although some are carefully preserved by the garrison of Gibraltar. In addition to the barbary apes, the forest elephant, the leopard and to some extent the gazelle and antelope, but not the barbary lion, have been exterminated in Morocco, although their close relatives can still occasionally be found south of the Sahara. Pliny (N.H. VIII 228) points out that in Africa there are no wild boars, deer, wild goats or bears.

5. Above Maurusia on the outside sea lies the country of the Western Aethiopians, a country for the most part poorly settled. Here, too, according to Iphicrates are found camelopards, elephants and the rhizeis, which are like bulls in their form but elephants in their manner of living and their size and courage in fighting, serpents so large that even grass grows on their backs. He also relates that lions attack elephant calves and leave them covered in blood until the mother returns. Seeing her young covered in blood the mother kills it. Then the lion comes back and devours the corpse. And he says that Bogus the king of Maurusia, when he went up against the Western Aethiopians, sent down to his wife reeds like those of India of which each joint held 8 Choenices and also asparagus of a similar size.

Aethiopia according to other ancient writers is placed to the south of the Atlas range and, if Iphicrates is a reliable authority, there have been great climatic changes in 2,000 years, for the camelopard or giraffe, an animal which was sometimes seen in the amphitheatre, is an open country creature rather than a forest dweller. Elephants of the pigmy type are well established as a North African species, but the rhizeis is less well identified. It might be a rhinoceros, but if so there should surely be a mention of its horns. It is more probably a buffalo, another grassland rather than forest or desert animal, than a wild boar (Pliny N.H. VIII 228 "in Africa autem nec apros"). Grass-backed snakes are not reported from elsewhere, so this may be an exaggeration for a very large snake rather than a plumed serpent. There is no truth in the story of lions attacking elephant calves, but there is no reason why a bamboo joint should not hold

13.12

one and a half gallons, nor why asparagus should not grow to a similar size.

6. As one sails into the Inner Sea from Lynx, one comes to the city of Zelis and to Tinx and then to the monuments of the Seven Brothers and to the mountain which lies above them, Abyla by name, which abounds in wild animals and large trees. The length of the Strait at the Pillars is said to be one hundred and twenty stadia and the minimum breadth measured at Elephas sixty. On sailing into the sea, one comes next to several cities and rivers - to the Molochath river which forms the boundary between the lands of the Maurusians and the Masaesylians. Near the river lies a large promontory and also Metagonium a waterless and barren place; and I might say also that the mountain which begins at the Coteis extends as far as this; and its length from the Coteis to the boundaries of the Masaesylians is five thousand stadia. Metagonium is about opposite New Carthage on the other side of the sea, but Timosthenes wrongly says that it is opposite Massilia. The passage across from New Carthage to Metagonium is three thousand stadia and the coasting voyage to Massilia is over six thousand.

Strabo now turns his attention to the Mediterranean coast of Morocco, although owing to his own misreading, he begins outside on the Atlantic Coast at Lixus. Zelis does not, as Strabo suggests, lie within the straits but is on the Atlantic coast, halfway between Lixus and the Coteis. Strabo (III; i; 8) gives further details of this city.

It is from Belon that people generally take ship for passage across to Tingis in Maurusia, and at Belon there are trading places and establishments for salting fish. There used to be a city of Zelis also, a neighbour of Tingis, but the Romans transplanted it to the opposite coast of Iberia taking along some of the inhabitants of Tingis; and they also sent some of their own people thither as colonists and named the city "Julia Izoa".

It would appear that Strabo has misinterpreted his authorities, for in this passage, he suggests that Zelis was transferred from its position as a neighbour of Tingis to a position opposite Tingis on the Iberian coast, although in the previous sentence he says that 'it used to be'. In Book XVIII, however, he definitely places it in Mauretania. It is noticeable also that in Book III he mentions Tingis, but he changed his opinion when he came to write Book XVII, where he calls it either Trinx (Section 2) or Tinx (Section 6). In this section it is no longer confused with Lynx or Lixus but is separated and placed on the straits next to the Mountain of the Seven Brothers. Strabo here differs from Mela in the origin of this name. Mela suggests that the Mountain is so called because of the number and altitude of its peaks. Strabo on the other hand suggests that the Seven Brothers were historical personages, whose exploits were commemorated in a monument with which the mountain behind has no connection for its name is Abyla. Other writers, including the Itinerary, separate Abyla and the Seven Brothers, placing the former at the inner end of the Straits, overlooking the modern town of Ceuta. Of the two mountains, the Djebel Moussa (Septem Fratres) was forested and full of animals, whereas the Monte Acho (Abyla) is very steep and rocky. It looks, therefore, as though Strabo has made another mistaken identification,

and once more altered a view which he held in Book III. There discussing the location of the Pillars of Hercules, he says (III; v; 5):-

Again some have supposed that Calpe and Abylix are the pillars, Abylix being that mountain in Libya opposite Calpe which is situated according to Eratosthenes in Metagonium country of a nomadic tribe, while others have supposed that the isles near each mountain, one of which they call Hera's Island, are the Pillars. Artemidorus speaks of Hera's Island and her temple and he says there is a second isle, yet he does not speak of Mount Abylix or of a Metagonian tribe.

Strabo mentions several other possibilities without really making up his mind which is the right pair of pillars.

It seems clear that Abylix and Abyla are the same names, though possibly from differing sources, and that Strabo follows one in Book III and the other in Book XVII.

Strabo also mentions another place on the strait - Elephas - without putting it in order. Since he does not qualify it as a town or mountain, and here Artemidorus may give some help. There were two islands in the strait, one of which was dignified with a temple to Hera and consequently called Hera's Island. There are two islands in the strait, on the Spanish side the Isla Verde off the harbour of Algeciras, and on the other the Isla Perekhil which lies very close to the African shore in front of the Djebel Moussa. These two are the only islands inside the strait which conform to Artemidorus' statement. The name Elephas may, therefore, be added to Hera's Island, to

make the Pillars according to Artemidorus. For most people, however, the Pillars of Hercules are the Rock of Gibraltar (Calpe) and Monte Acho (Abyla).

Strabo's figures for the length and width of the Straits are misleading. The minimum breadth measured at Elephas is according to Strabo sixty stadia. In fact, the minimum breadth from Punta Tarifa to the African shore is ten miles, which makes Strabo's figure twenty stadia short. The length of the Straits measured along the African shore, from Cap Spartel to Monte Acho, is forty miles or three hundred and twenty stadia, which does not agree with Strabo's figure. On the other hand he does say 'at the Pillars', and the distance between Europa point and Monte Acho is fifteen miles or one hundred and twenty stadia. It seems clear then that when Strabo wrote length, he was thinking of the distance between the pillars, rather than the length of the Straits of Gibraltar.

It is unfortunate that Strabo does not mention the names of the various cities and rivers on the inland sea, until he comes to the River Molochath. Although this was the boundary between the Maurusians and the Masaesylians in the pre-provincial era when Strabo was writing, there is no need to assume that it continued to be the limit of the province of Tingitana. The boundary may well have been moved eastwards for economic and

administrative reasons.

Strabo adds some important details about the area known as Metagonium: this is waterless and barren, and is noticeable only for its promontory, which is important in navigation. There are two promontories in this area: Cabo de Agua, which Ptolemy calls Cape Metagonitis, and Cabo Tres Forcas, which the Antonine Itinerary calls Cape Russader and Ptolemy, Cape Sestiaria. The latter is far more noticeable than the former, and is probably the one to which Strabo is referring. Metagonium then for Strabo, is the area between Cabo Tres Forcas and the Oued Moulouya.

Cabo Tres Forcas is in fact the end of the chain of mountains which runs along the Mediterranean coast of Morocco, but the distance which Strabo gives is greatly exaggerated. Five thousand stadia is one thousand kilometres, which is rather more than twice the distance by road between Tangier and Melilla. He is also wrong in saying that Metagonium is about opposite New Carthage. The latter is in fact due north of Oran, at a distance of twelve hundred stadia. The direct voyage from New Carthage to Melilla is only fifteen hundred stadia, which is half Strabo's distance. Finally the distance between Massilia (Marseilles) and the Straits is correctly given as six thousand stadia.

7. Although most of the country inhabited by the Maurusians is so fertile, yet even to this time most of the people persist in living a nomadic life. But nevertheless they beautify their appearance by braiding their hair, growing beards, wearing golden ornaments and also by cleaning their teeth and paring their nails. And only rarely can you see them touch one another in walking for fear that the adornment of their hair may not remain intact. Their horsemen fight mostly with a javelin using bridles made of rush and riding bareback, but they also carry daggers. The foot soldiers hold before them as shields the skins of elephants and clothe themselves with the skins of lions, leopards and bears and sleep in them. I might also say that these people and the Masaesylians who live next after them and the Libyans in general dress alike and are similar in all other respects using horses that are small but swift and so ready to obey that they are governed with a small rod. The horses wear collars made of wood or of hair to which the rein is fastened though some follow even without being led like dogs. These people have small shields made of rawhide, small spears with broad heads, wear ungirded tunics with wide borders and as I have said use skins as mantles and shields. The Pharusians and Nigritae who live above these people near the western Aethiopians also use bows like the Aethiopians and they also use scythe bearing chariots. The Pharusians mingle only rarely with the Maurusians when passing through the desert, since they carry skins of water fastened beneath the bellies of their horses. Sometimes however they come even to Cirta, passing through certain marshy regions and over lakes. Some of them are said to live like troglodytes digging holes in the earth. And it is said that here too the summer rains are prevalent but that in winter there is a drought and that some of the barbarians in this part of the world use also the skin of snakes and fish both as wraps and as bed covers. And the Maurusians are said by some to be the Indians who came thither with Heracles. Now a little before my time the kings of the house of Bogus and Bocchus who were friends of the Romans possessed the country, but when these died Juba succeeded to the throne, Augustus Caesar having given him this in addition to his father's empire. He was the son of the Juba who with Scipio waged war against the deified Caesar. Now Juba died lately but his son Ptolemy whose mother was the daughter of Antony and Cleopatra has succeeded to the throne.

Although this section is the longest, there is little in it which needs comment. The Pharusians and Nigritae whom Strabo has mentioned before (XVII; iii; 3) are desert tribes living in the oases along the northern edge of the Sahara and extending well into Algeria. The concluding sentence gives a date (A.D. 23/24), for the revision of this section, but it is the only item of up-to-the-minute information, and is an interpolation by a later hand rather than a footnote incorporated in the text by Strabo.

8. Artemidorus disputes the view of Eratosthenes because the latter calls a certain city in the neighbourhood of the western extremities of Maurusia Lixus instead of Lynx, and because he calls Phoenician a very great number of rased cities of which no trace is to be seen, and because after calling the air among the western Aethiopians 'salty' he says that the air is thick and misty in the hours both of early morning and evening. For, argues Artemidorus, how can these things be in a region which is arid and torrid? But he himself gives a much worse account of the same region, for he tells a story of certain migrants, Lotophagi, who roam the waterless country and feed on Lotus a kind of plant and root from eating which they have no need of drink and that they extend as far as the region above Cyrene, but that those in that region also drink milk - eat meat although they are in the same latitude. And Gabinius also, a Roman historian, does not abstain from telling marvellous stories of Maurusia; for example he tells a story of a tomb of Antaeus near Lynx and a skeleton sixty feet in length which he says Sertorius exposed to view and then covered with earth. And he tells fabulous stories about the elephants, for example he tells that whereas the other animals flee from fire the elephants carry on war with it and defend themselves against it, because it destroys the timber, and that they engage in battle with human beings, sending out scouts before them and that when they see them fleeing, they flee too and that when they receive wounds as suppliants they hold out branches of a tree or a herb or dust.

The identification of Lynx and the Phoenician cities have already been discussed and no comment is needed on Artemidorus' other strictures on Eratosthenes. The Lotophagi if they extended to Cyrene, seem as errant as Artemidorus himself. Gabinius' stories of the elephants may be dismissed as fabrications, but it is more difficult to dismiss the skeleton. Gabinius is not the only one to

relate this story. It also occurs in Plutarch (Sertorius 9).

In this city the Libyans say that Antaeus is buried and Sertorius had his tomb dug open, the great size of which made him disbelieve the barbarians. But when he came upon the body and found it to be 60 cubits long as they tell us, he was dumbfounded and after performing a sacrifice filled up the tomb again and joined in magnifying its traditions and honours.

Plutarch goes on to give details of the origins of Tingis, which it will be convenient to give here.

Now the people of Tingis have a myth that after the death of Antaeus his wife Tingi consorted with Heracles and that Sophax was the fruit of this union, who became king of the country and named a city which he founded after his mother; also that Sophax had a son Diodorus to whom many of the Libyan peoples became subject since he had a Greek army composed of the Olbians and Myceneans who were settled in these parts by Heracles. But this tale must be ascribed to a desire to gratify Juba, of all kings the most devoted to historical enquiry; for his ancestors are said to have been descendants of Sophax and Diodorus.

Plutarch probably culled the episode of Sertorius and the tomb of Antaeus from Gabinius, as Strabo did, but he gives rather more details. Assuming for the moment that the skeleton was sixty cubits (one hundred feet) long, the tomb which contained it would resemble a long barrow. In fact, it might well be the length of this

barrow which gave rise to the legend of Antaeus' great size, and exaggerated his six cubits into sixty. If Sertorius had been an archaeologist and had left behind him a written record, instead of being a soldier and performing a sacrifice, the facts could have been easily established. The only animal whose skeleton approaches one hundred feet, if one excludes reptiles of the proto-historic period, is a whale; it would be a remarkable coincidence if a whale of enormous size had been washed by a great wave into a convenient cave. It is unlikely that the body of any object one hundred feet long could have been carried with the primitive implements of the second millenium B.C. and deposited in a prepared tomb.

Although Plutarch points out that the story of the origin of Tingis was designed to gratify Juba II's desire for historical antiquity, there may be something in it. A large amount can be discounted almost at once. Heracles and Antaeus are mythical figures and Tinga, Sophax, and Diodorus are very shadowy figures. The Olbians and Mycenaeans on the other hand could easily be historical, though they need not have been brought by Heracles. Greek colonies spread over the Eastern Mediterranean and into Cyrenaica as well as into Italy, France and Spain, and there is no reason why a Greek colony could not have been established on the Moroccan shore, for

the early Phoenicians did not always found permanent settlements along the coasts where they traded. It must be admitted that there is little evidence to prove an early Greek colony existed at Tangier, whereas there is evidence of Carthaginian influence. The evidence of Hecateus of Miletus proves the existence of a town with a similar name, but Scylax gives the name Pontion to the site of Tangier. It may be that the Carthaginians conquered the Greek colony when they found that it was a nuisance. This would account for the fact that Tangier is a Carthaginian colony of respectable antiquity, in contrast to the more ephemeral settlements which later generations of Carthaginians established along the coast.

It is not as easy to sum up Strabo's account as it was Mela's; for Strabo is lengthy and discursive and adds little to the geography, though he does give some valuable biological data. His knowledge in fact is superficial and confined to the coastal region. Elsewhere he relates stories of the interior rather than amasses facts. The facts he gives are the names of three towns, one river, five tribes, and six geographical features, together with the exploits of six persons and ideas from six other writers.

Map to illustrate Strabo's Geography

The Map is drawn from the Third Edition Army/Air style map of North Africa on a scale of 1:2,000,000 and includes the following places.

Lixos - Lynx
Tinge - Trinx - Tiga
Zelis

Tchemmich
Tangier
Dchar Djedid

Abilyca - Abila
Coteis, Cape Cotes
Elephas
Emporicus Gulf
Metagonium
River Molochath
Septem Fratres .

Monte Acho
Cap Spartel
Isla Perekhil

Cabo de Agua
Oued Moulouya
Djebel Moussa

THE VOYAGE OF HANNO

It is unfortunate that the earliest eye-witness account (c.450 B.C.) of the Atlantic sea-board of Morocco, is very sketchy and unhelpful. This may be, as J. Carcopino ("Le Maroc Antique" pp.76-77) suggests, because the Carthaginians wished to avoid competitors along the route by which gold came from the south. It is also likely that the sense may have been lost in translation from Punic to Greek and from Greek to Latin and English. This translation of the section of Hanno's account which deals with the Moroccan coast is made from the Latin text published by Carl Muller "Geographi Graeci minores" (Paris 1855).

Account of the voyage of Hanno, King of the Carthaginians along those parts of the Libyan land beyond the Pillars of Hercules, which inscribed on plaques, he hung in the temple of Cronos.

1. It pleased the Carthaginians that Hanno should sail beyond the Columns of Hercules, and found Liby-phenician cities; and so he sailed with sixty thousand men and women and food and other necessities.

2. When he had sailed through the columns and beyond for two days, we founded our first city, which we named Thymaterion; it is surrounded by a large plain.

3. Thence we sailed towards the west and arrived at Soloeis, a promontory of Libya bristly with trees.

4. There, having raised an altar to Posseidon, we turned again towards the east for half a day until we came to a swamp lying not far from the sea, full of many and tall rushes. Round about were both elephants and many other wild graminivorous beasts.

5. Having departed from the swamp about a day's journey we peopled with new colonists ~~the~~ coastal cities which are named Caricon Teichos, Gytte and Akra and Melitta and Arambys.

6. Having sailed from there we came to a great river, Lixus, which flows from Libya. Nearby the nomad Lixites pasture their flocks.

7. Beyond these people live the unfriendly Aethiopes cultivating a land full of wild animals and divided by great mountains, from which, they say, the Lixus flows. Around these mountains, furthermore, live men of a different shape, the Troglodytes, whom the Lixites say, are swifter in running than horses.

The vagueness of Hanno's own account has led to much speculation. M. Jérôme Carcopino devoted ninety pages of his book "Le Maroc Antique" (pp. 73-163), in the article "Le Maroc Marché Punique d'Or", to the voyage of Hanno and his misleading statements.

M. Georges Marcy contributed sixty-one pages (pp. 1-61) to *Hesperis* XXII (1935) under the title "Notes linguistiques autour du Périple d'Hannon"; and a further two pages to the following volume (XXIII, 1936) "Apropos du Périple d'Hannon - au sujet des conditions de la navigation antique" (pp. 67-68).

The latter author is not an archaeologist, but an expert in the Berber dialects and their older forms. He approaches the subject with no pre-conceived notions of the extent of Hanno's voyage, and he is not trying to prove a thesis nor provoke an argument. He begins with general remarks, making the point that one should not take the sailing directions too seriously; the phrase used in the Greek, 'towards the rising, setting, sun', could in fact be anywhere from North-east to South-east and North-west to South-west according to the time of year. He then discusses at length the various names given in Hanno's account, and finds sometimes unhappy and sometimes rather forced derivatives and associations in Berber and Punic-like vocabularies.

Thymiaterion, he says (p.36) ought to be written Thumiateria, derived from two words 'tumia' (mouth) and 'taria' (valley). He identifies Thumiateria with Mehdia at the mouth of the Oued Sebou, but this is one place where the name is unsuitable; a more apt description

of the position of Mehdia would be "cliff town" or "basin edge". This site has produced no evidence of Carthaginian occupation, and the name has no philological connection with Thumiateria. Except for the traditional identification which stems from Charles Tissot, there is no reason to believe that Thumiateria is Mehdia, and a case can be made out for assuming that it is not.

Hanno's account places it at two days sail from the Straits on the way to Cap Cantin. From the Straits to Mehdia is barely 100 miles, which is barely one day-and-night's sail, according to Agrippa and Scylax. A more likely site is Azemmour, for it is just over 200 miles from Cap Spartel, and stands at the mouth of the Oum-er-Rbia in front of the vast plain of the Chaouia. Marble columns of punic appearance have, according to the Guide Bleu, been found there, as well as Roman coins. Furthermore the coast from the mouth of the Oum-er-Rbia to Cap Cap Cantin is full of Punic settlements (A. Luquet, *Hespéris* XLII 1956, pp.117-132). Over 3,000 separate Punic tombs have been found in one season's work along this coast. At Azemmour, therefore, and not at Mehdia, should one look for Thumiateria.

A further reason for this identification is based on negative evidence. Apart from Mela, who mentions a colony, name not given, at the mouth of the River Gna,

no other Roman writer mentions this town; unlike the other Carthaginian foundations of Tingi and Lixus, it must therefore have been abandoned before the Roman occupation, or the Roman occupation cannot have reached it.

Finally, if Thumiateria was at the mouth of the Sebou, there could have been no reason to establish a harbour further upstream at Thamusida, since there was a perfectly good Carthaginian harbour at the mouth. Like the Roman, the French authorities preferred to make a completely new harbour some distance from the sea. Tissot's reason for identifying Mehdia with this Carthaginian colony is that it is the one point of the coast which can be said to dominate a vast plain. Hanno, however, says that Thumiateria is surrounded by a vast plain not that it dominates one.

The promontory called Soloeis has, according to Marcy (p.39) no connection with 'sol' the sun. He derives it from two Berber words, 'sul-wais' which mean the footprint of a horse-shoe; this sounds like one of the improbable names which people give to houses as well as places, though Carcopino finds a lot more in it.

Marcy also identifies the swamp; he points out that at the winter solstice, the sun rises in the South East, and that the coast south of Cap Cantin tends in an easterly direction. Furthermore, the word 'limnen' (latin

'stagnum') is not really a lake but an area of shallow water such as might be left in a lagoon or by an inundation. In fact there are no lagoons or lakes along that coast, but the lower valley of the Oued Tensift is narrow and low-lying and could be easily inundated. Along the river terraces have been found traces of settlement, including deposits of elephant bones. He suggests that when Hanno visited this coast, the Oued Tensift had recently flooded its lower valley and thus produced an area of shallow water, prevented from escaping into the Atlantic by a sand-bar.

Caricon Teichos has no connection with Caria (pp.42-44). Teichos is a simple Greek translation of the Punic 'gader' to which may be compared the Arabic 'gadir', a wall or fortress. Caricon is the Greek transliteration of 'ikorakon' which means very big. Hence Caricon Teichos is the very big fortress, and this name might have been given to almost any site south of Cap Cantin. The most likely site, though there is as yet no evidence, is Safi.

Gytte is a more difficult name. It has some similarity with Cotta and Coteis, both of which have connotations with vines. On the other hand, it might with more reason be connected with the Punic 'guda' meaning a high dune. Marcy spends four pages (pp. 45-49) on this word and finally rejects the vine in favour of the dune. He points

out the accident which has given the name 'Funti', the Mauretanian Berber word for a dune, to a site near Agadir and suggests that Gytte was the oldest name for that site.

Two pages of philology (pp.51-52) are devoted to showing how Akra is derived from Aglu, a small village at the mouth of the Oued Adoudou, and another page (pp.52-53) to pointing the similarity between Melitta (Melissa by philological change) and 'flumen Masatat' (Pliny) which he wrongly identifies as the present Oued Masat. Arambys is identified by means of the Punico-berber 'asaka' (mouth) with the Oued Noun (p.53). Finally the River Lixus (meaning lemon) is identified with the Oued Draa which forms the southern boundary of the Kingdom of Morocco.

Marcy, therefore, takes Hanno's account quite literally and in a straightforward way, and identifies as far as he can the places in Hanno's account with the actual places today, basing his suggestions on the similarity between Carthaginian and Berber names.

Carcopino, although he makes use of Marcy's work, believes that Hanno's account has been deliberately falsified in order to mislead any would-be pirates on the gold route. He therefore approaches the text with a more critical mind. The easiest way to find out what Carcopino thinks Hanno did, is to look at the map facing page 88 of 'Le Maroc Antique', and partially reproduced

at the end of this section. It is divided into four separate voyages; first from Gades to Thumiateria and Soloeis; secondly, south to Caricon Teichos and north to the lagoon, Akra, Arambys, Cotte, and then south to Melissa and Lixus; the third and fourth voyages take Hanno beyond the scope of this study.

This hypothesis disposes of the difficulty of accepting two rivers of the same name Lixus, one in the north and one in the south, and it also means that the Lixites which Hanno took for the remainder of his voyage as interpreters and guides would have a fair knowledge of Punic, for the Carthaginians had built a town on the northern river.

Unfortunately it raises more difficulties than it solves. Firstly, Hanno says (section 7) that the people who live in the hinterland are Aethiopians. As this term is used for negroid rather than semitic races, Hanno's Lixus should be in the south rather than in the north. It is unlikely that at that time, there were black tribes living in the north of Morocco. Secondly, if the Lixus is the northern river, it is less likely that the Lixites would only know by hearsay of the mountains from which their river came, for the Rif is less than fifty miles away and the Troglodytes would not be only a legend, but traces of their habitations would

be discoverable. Thirdly, the town of Lixus may not have been built at the time of Hanno's voyage.

Carcopino produces three arguments for supposing that Hanno returned to the Northern Lixus to take on interpreters. Firstly, Scylax (in the next century) puts the Lixus river in its rightful position and names another river Xion, where the southern Lixus would be. Along the Xion, according to Scylax, live Aethiopians, and not white settlers as Carcopino believes the Lixites to have been. There is however, no reason why the Carthaginians should not have established a trading station on the southern Lixus which would account for the presence of white or semitic people in a predominantly negroid area. Secondly, Gsell's argument from Strabo's remark about the custom of the inhabitants of Gades to fish in company with the Lixites (Strabo II; iii; 4), is invalid because tunny are fished for in the North of Morocco as well as in the South. Thirdly he refutes Dessau's argument (RE XIII; c 930) which relies upon Pausanias' comment that Herodotus was not a good geographer because he did not know that the Nasamones were the Lixites and not the Atlantes. If, says, Carcopino, he had consulted Periegetes he would have known that these Lixites were Aethiopians, and that the climate in that area was so hot that the river could not flow. Hence,

concludes Carcopino, these Lixites could not be the Lixites of Hanno's voyage because they were white (but see above).

Carcopino admits that Hanno's statement that the Lixus rises in great mountains, suggests the Atlas range as its source, but he points out that Hanno is very guarded and does not commit himself to the authenticity of this information. Furthermore, the term 'great river', does not lend itself to the Oued Draa and there is no mention in Hanno's account of the crocodiles which Pliny and other writers relate lived in this river. On the other hand, the river valley is said by Hanno to provide good pasturage for the flocks of the shepherd people, who according to Carcopino, lived on the other side of the Loukkos from the Phoenician settlement at Tehemmich.

Carcopino's interpretation of Hanno's voyage stands or falls on the identification of the Lixus with the Oued Loukkos. It is certainly difficult to believe that Hanno would not have called at what is supposed to be the oldest Phoenician settlement on the Atlantic coast, but he does not expressly mention a town of Lixus or a town near the Lixites. Since the lowest levels at Tchemmich belong to the fourth or fifth century B.C., this is sufficient argument for believing that Hanno's Lixus was in the south. Carcopino's counter-arguments are of no avail

against this. His real objection to the Oued Draa as the Lixus is that it is not a 'great river'. At most times of the year, it is an intermittent stream, but Hanno's arrival might have coincided with a seasonal flood caused by heavy rainfall in the Atlas. Remembering also that there has been a certain amount of rainfall lost by deforestation over two thousand years, and that the area according to other writers is prolific in animals, it would not be unreasonable to suppose that this river was in protohistoric times a 'great river' in the sense in which Hanno used the term. It has also this advantage that its source is not easily observed from the coast, for the river flows in from the south east, while the Atlas range is north-north-east from its mouth. Hanno would then be cautious in adding 'they say' to his account of its source, Lastly there is no real reason why the natives of this area should not have been pastoral nomads, except that there is little pasturage nowadays. Elsewhere in North Africa traces of extensive cultivation in Imperial times have been revealed in areas which are now largely desert. Despite Carcopino's objections, the balance is still in favour of the identification of the Oued Draa with Hanno's Lixus. If it could be proved that the name was abbreviated in the following century, or that the Greek translator of Hanno's account had

slipped up, the identification would be accepted without hesitation.

Before leaving this subject, it is as well to mention two English writers who have made contributions to the study of Hanno's voyage. In 1797, Messrs. Cadell and Davies published a slim booklet written by Thomas Falconer of Corpus Christi College, Oxford, entitled "The Voyage of Hanno translated and explained from the accounts of modern travellers; defended against the objections of Mr. Dodwell and other writers; illustrated by maps from Ptolemy, D'Anville and Bougainville." The translation differs slightly from that given at the beginning of this section and is followed by two dissertations. The first gives contemporary parallels from the writings of Messrs. Adanson, Bruce and Bougainville, together with quotations from Pliny, Strabo, Sallust, Matthew Paris, and from Purchas's Collections, and shows how the stories included in Hanno's account were still current in the eighteenth century. The second dissertation is largely his defence against Dodwell, who preferred to believe that Hanno's voyage was entirely false. In the course of refuting Dodwell, he spends some time considering the date of Hanno's voyage which he puts 'towards the year 570 before the Christian era'. He identifies Hanno's Lixus with Scylax' Xion, in which he has the support of MM. Bochart and D'Anville.

The other English writer is J. Rendell Harris, who discusses Hanno's voyage in Woodbridge Tract No.18, where he seeks to prove that Hanno was following Egyptian mariners who had already explored and named the coast.

The conclusions which may be drawn from Hanno's account are rather meagre. He sailed out of the Mediterranean and made his first landfall at the mouth of the Oum er Rbia, where he founded Thumiateria. Thence he sailed to Cap Cantin and five other places along the coast before putting in for a last stop at the mouth of the Oued Draa.

THE PERIPLUS OF SCYLAX

The last large work on Morocco to be discussed is that of Scylax, and it has been left to the last for three reasons; it does not add much to our enquiry; it seems to be engaged in bringing Hanno's account up to date and there are doubts as to its validity. Unfortunately it has not been possible to find any account in English of this work, and very little is known concerning its author. From internal evidence it would appear that it was written about 337-335 B.C. In form, it is an account of the coast-lines of the Mediterranean and adjoining seas, and the section dealing with the West coast of Morocco occurs in paragraph 112 while the northern coast occurs at the end of the pre-~~ceding~~ceding paragraph.

The translation which follows has been freely made from the Latin version in the "Geographi graeci minores" I. (Paris 1880).

111.... the big cape; the town of Akros and its bay, a deserted isle called Drinaupa; Hercules' African column; Cape Abyla and a town on the river; opposite it the Isles of Cadiz. From Carthage to the columns of Hercules the fastest sailing takes seven days and nights

112. Sailing beyond the Columns of Hercules into the outer sea and keeping Africa on the left hand, one comes to a great bay which stretches as far as Cape Hermaeus, for in this section also there is a Cape Hermaeus. In the middle of the bay is the region and town of Pontion. A large lake lies near the town, in which there are several islands. Around the lake flourish reeds, cypresses, willows and rushes. There are also birds called Meleagrides which are found nowhere else unless they were imported from here. The name of the lake is Cephesias and the gulf is called Cotes. It lies between the Columns of Hercules and the Cape Hermaeus. From this Cape Hermaeus extend large cliffs which face Europe from Africa, not rising sheer from the sea but beaten by the waves in some places. This chain of cliffs faces a promontory of Europe opposite Hermaeus which moreover is called the Sacred Cape. Beyond Cape Hermaeus is the river Anides which flows out through a great lagoon. Beyond the river Anides is another great river, the Lixus, with a Phoenician city, Lixus; there is another city, an African city, with its port on the other side of the river. Beyond the Lixus is the river Crabis with its harbour and a city of the Phoenicians called Thymateria. Sailing from Thymateria (sic) one comes to Cape Soloeis which projects furthest into the sea. All this area of Africa is most well known and sacred. On the height of the cape is a great altar sacred to Poseidon. On this altar are figures of men, lions and dolphins, which they say was the work of Daedalus. After Cape Soloeis is the river called Xion. Around this river live the Western Aethiopians. Around here is the island which is called Cerne. The journey from the Columns of Hercules to Cape Hermes takes two days. From Cape Hermes to Cape Soloeis takes three days. Thence to Cerne takes seven days. The whole journey from the Columns of Hercules to Cerne thus takes twelve days.....

X / The conclusion of the Meterranean coast occupies the last few lines of paragraph 111 and is given in note fashion. There is no reason however, to disregard the order in which the notes are given. The big cape is presumably the biggest on that coastline, namely Cabo Tres Forcas, later known as Cape Rusadder. The town of Akros and its bay are less certain. From the order, they must be West of Cabo Tres Forcas and cannot therefore be Melilla, which in any case has a lagoon rather than a bay. The Bay of Alhucemas is more likely, and it does have the advantage of having an island which may well have been deserted. Alternatively, Akros may be Ptolemy's Acrath which is identified with P. Pescadores. Drinaupa might be Isla d'Alboran or Penon de Velez de la Gomera. Hercules' African column is usually taken to be Monte Acho, which is also called Abyla. The town on the river which is opposite the isles of Cadiz must therefore be on the Straits, and is more likely to be Alcazarseguer than Tangier, for reasons which become obvious later.

Paragraph 112 should deal with the western Atlantic coast of Morocco and it certainly starts as though it did. But it is difficult to place Cape Hermes outside the Straits. It should be north of Oued Loukkos and can only be Cap Spartel, which is also known as Ampelusia and Coteis. It is on the Straits, therefore, that one must

look for Pontion, a town with a region behind it and a bay in front, near a large lake fringed with reeds, rushes, willows and cypresses. No such lake exists today. The bay and the town however, are still there, but nowadays they are called Tangier. When Pliny says that Tingi was founded by Antaeus, he is reporting the legend current among the inhabitants. If Scylax is to be trusted, Antaeus should have founded the town of Pontion, on whose site the Augustan colonists, imported probably from Spain, placed the buildings of Traducta Iulia Tingi. To the east of the modern town of Tangier there lies an area of low flat land which may, 2,300 years ago, have been a lake or lagoon of considerable size, separated from the bay of Cotes by a sandbank. In the course of time the reeds and rushes covered Lake Cephesias, and turned it into a swamp, which may have been drained by the Roman colonists and converted into grazing and market gardens. The disappearance of the lake would force the Meleagrides to leave their accustomed quarters, but lack of further evidence prevents an identification of these birds.

The range of hills which runs along the coast from Tangier to Cap Spartel satisfies the conditions of Scylax. They face Europe; while steep and cliff-like, they do not rise straight from the waves but at some points the action of the waves has eroded outlying spurs to vertical faces.

Scylas mentions, between Cape Hermaeus and Lixus, a river Anides and its lagoon. This must refer to the Rio Mharha, a slow stream meandering through a flood plain. The prevailing current has built a sandbar across its mouth, and the lagoon has been filled in by natural causes.

Scylax's account of the next river down the coast is fuller than most, for he notes the presence of two settlements, one Phoenician and one native, and it is the latter which has the harbour. The Phoenician city of Lixus is well-known on the north bank of the estuary, but the remains of the native town have not been found, presumably because they are underneath the modern city of Larache.

The third river on this coast, the Crabis, is probably the Oued Oum er Rbia and the colony of Thumiateria with its harbour, which stands on the estuary of the Crabis, should be identified with Azemmour. But this seems to be the extent of Scylax's actual knowledge, for he omits any mention of other rivers on this coast. The only two points which he records between the Crabis and the island of Cerne are Cape Soloeis, which has already been identified with Cap Cantin, and the river Xion, around which live the western Aethiopians. The whereabouts of this river is uncertain, except that it lies south of the High Atlas, for the Aethiopians are by definition a black-skinned race, and negro tribes are found south of the Atlas.

In paragraph 69 of his work Scylax gives the distance normally sailed during daylight hours as 500 stades, which is $62\frac{1}{2}$ miles. A night's journey would presumably be rather less, 400 stades or 50 miles. Thus seven days and nights from Carthage to the Columns of Hercules should be nearly 800 miles. In fact, the distance is nearer 900 miles, but the current along the coast may have helped to shorten the time of the voyage. In the Straits of Gibraltar, however, two days' sail becomes nonsense, for it is only 40 miles from Ceuta to Cap Spartel instead of 125 in Scylax's account. There are two possibilities which would account for this discrepancy; first, that contrary currents may slow down the rate of sailing; a three-knot current running eastward constantly would slow down a ship's progress by about 40 miles in ~~tw~~elve hours. Secondly, actual observation during the crossing from Tangier to Gibraltar shows that at roughly the halfway point, one can see from the foredeck on a clear day the whole of the coastline from Ceuta to Cap Spartel on the South, and from Gibraltar to Trafalgar on the north. References in other works to the straits of Cadiz would suggest that to the ancients, at any rate, the outer northern terminal was Cadiz, and that the length of the straits should, therefore, be measured to or from that point. Hence the straits could easily be nearly two days' sail, for it is nearly 80 miles from Ceuta

to Cadiz. A one knot contrary current would increase this to about 110 miles in 25 hours.

On the other hand, Scylax's statement that from Cap Spartel to Cap Cantin is three days' sail is somewhat inaccurate, for the distance is 300 miles in a direct line, and the distance sailed in three days is barely 200 miles. A $2\frac{1}{2}$ knot current would account for this difference, but it is probably easier to assume that Scylax's original information was that Cap Cantin was five days' sail from Ceuta. 340 miles at $62\frac{1}{2}$ miles per day is a little over 5 days; Scylax then subtracted two days (i.e. the time taken from Ceuta to Cadiz) from the original five, leaving the three which he mentions in his account. Alternatively, Scylax may mean three day-and-night's sail, that is just over 300 miles. Seven days' sail from Cap Cantin is a distance of nearly 450 miles, but seven days-and night's sail amounts to 700 miles. The shorter distance is only as far as the Canary Isles, but the longer brings us to the Rio de Oro. The latter is Hanno's Cerne, according to Carcopino, while the former agrees with Ptolemy's figures.

Mention has already been made of Scylax's more intimate knowledge of the northern part of Morocco. It may be for this reason that he makes no mention of any of the other colonies founded or increased by his illustrious

predecessor, Hanno, rather than that these colonies had been eclipsed by the passage of time. His failure to mention any harbour or estuary south of Cap Cantin, with the exception of the Xion, suggests that he himself never visited these regions, and that his knowledge of Xion and Cerne is derived from the navigation of Hanno or another early explorer.

Map to illustrate Scylax' Periplus

The map is drawn on a scale of 1:2,000,000 from the Third Edition Army/Air Style map of North Africa, and shows the following places mentioned by Scylax.

Big cape	Cabo Tres Forcas
Akros	Punta Pescadores
Drinaupa	
Cape Abyla	Monte Acho
Cape Hermaeus	Cap Spartel
Pontion	Tangier
Lake Cephesis	
Cotes gulf	Bay of Tangier
River Anides	Rio Mharha
River Lixus	Oued Loukkos
Lixus	Tchemmich and Larache
River Crabis	Oued Oum er Rbia
Thumiateria	Azemmour
Cape Soloeis	Cap Cantin
River Zion	Oued Draa.

THE MINOR WRITERS

The two preceding sections have been concerned with the extent of pre-Roman knowledge of Morocco. The three writers considered here are also pre-Roman authorities, who unlike Hanno and Scylax did not visit Morocco. What they say reflects the prevailing knowledge among foreign scholars. Unfortunately the main body of their works has not been preserved; posterity is grateful to Stephen of Byzantium for the fragments it now possesses, and to Carl and Theodore Muller, who published them in their 'Fragmenta historicorum Gaecorum' (Paris 1841-1851).

Hecateus of Miletus (c 550-476 B.C.), a Greek historian and traveller, who tried to dissuade his countrymen, the Ionians, from revolting against Persian rule and was one of their ambassadors, after their defeat, to the Persian Satrap, Artaphernes, recorded four names from Morocco in his 'Description of Asia', namely: Thrinke, a town near the columns of Hercules; Thinge, a town of Libya; Melissa, a town of the Libyans; and Douriza a lake near the River Lixus.

As Hecateus lived at the further end of the Mediterranean and derived his information from others, it is not

unlikely that his first two towns are in fact the same; the names Thrinke and Thinge are not dissimilar to each other and to the later Tingi. The apparent confusion is easier to understand when one remembers Strabo's difficulty with this name. Melissa might be Melitta, where Hanno settled new colonists, but this is generally considered to be much further south. Pliny mentions a town of Lissa in the area of the Straits, but it is doubtful if this town was in existence quite so early. It is more probable that Melissa is the name of the settlement of Libyans on the south bank of the Oued Loukkos mentioned by Scylax as opposite Lixus. It might be supposed, that since Hecateus mentions the River Lixus, that he should also mention the Phoenician town. The earliest levels of Lixus appear to date from the Fifth Century B.C; if Hecateus was aware of its existence, it is likely to be one of the missing names rather than either Thrinke or Thinge. Lake Douriza is otherwise unknown and there is no lake near the Lixus today. It may be another of the lagoons which Scylax mentioned, though he does not say that there was one on the Oued Loukkos. A further possibility is the lake south of the Sebou, a few kilometres beyond Mehdiya. Hecateus' knowledge, like the pieces of his work which have been handed down to us, is fragmentary.

The second minor writer whose work has been partially preserved by Stephen of Byzantium is Ephorus, a native of Cymae in Asia Minor, whose universal history covered 750 years down to 340 B.C. In his fifth book, he mentions Caricon Teichos, which he describes as a town of Libya on the left of the Columns of Hercules. It seems evident that he obtained this information from the account of Hanno's voyage; in view of the silence of every other writer, it does not seem likely that he obtained it from another source. It does not add anything to the knowledge of early Morocco, though it may suggest that Caricon Teichos was the most important of Hanno's settlements.

The third author preserved by Stephen of Byzantium is Alexander Polyhistor, a Greek philosopher of the first century B.C. He gives a list of the names by which Libya was known, and they make interesting reading: the Olympian Land, the Oceanic Land, the Furthest Land, Coryphe, Hesperia, the Land of Ammon, or Aeria. He also mentions three towns: Lixa, mentioned in the first book of Libycans, is a town of Libya near the river Lixus; Gilda, in the third book, is a town inhabited by Gildites; Xilia also in the third book, is a town of Libya. This cannot be the full extent of Alexander's knowledge, for the list of names by which the continent is known, is evidence of his encyclopedic mind. These three towns are all known

already from other writers, but it is gratifying to be able to point out the antiquity of otherwise unremarkable towns. Lixus is already proved to have fifth century B.C. levels, and it remains to find first century B.C. occupation at Gilda, identified as near Sidi Slimane, and at Zilis (Xilia) identified as Dchar Djedid. The loss of the rest of Alexander's work is regrettable in view of its possible contents.

Other writers in the course of their work mention the great range of mountains which dominate Morocco. Herodotus is the first to mention the Atlas mountains. Vitruvius considers them the source of the Nile as do Orosius and Cassius Dio. Later historians and geographers, such as Julius Honorius can be accused of plagiarism, and it is doubtful whether they have anything to add to the elucidation of the topography of Morocco.

THE ROAD SYSTEM OF TINGITANA

One item which emerges from this study of the ancient sources is the road system, and this deserves consideration on its own account, rather than incorporation in some general conclusions. The present section is therefore devoted to the roads of the province.

Unfortunately, the soil of Tingitana is said not to retain any traces of the roads which the Romans should have made, and this leads to the conclusion that the roads were made up only in the region of the towns, and that between towns there were simple tracks. A second drawback for the student of the road system is the complete absence of mile-stones; only one has ever been reported and that was never described. Lastly the foreign student is handicapped by the absence of many published works on the roads. Only four reports have appeared; P. Cesar Morgan and Guillermo Guastavino Gallent were responsible for "Vias y Poblaciones Romanas en el Norte de Marruecos" (Memoria 11, Delegacion de Educacion y Cultura, Madrid 1948); M. Raymond Thouvenot has described "La Route Romaine de Sala à l'Oued Beth" in CRAI 1956 p.120-124 and in Hespéris XLIV 1957 pp. 73-84; Colonel Jean Baradez in 'Deux missions de recherches sur le limes de Tingitane' (CRAI 1955 p.288-298) makes some observations

about the roads in the south of the province. No one has attempted a survey of the whole system or tried to show how it was built up. Too often it is assumed that the road system of a province began, as it ended, in a state of completeness, but in Morocco it is easy to show the growth of the system.

There are three ancient authorities who based their work upon a road system; the Antonine Itinerary expressly indicates two roads; Ptolemy's map was constructed from the reports of travellers, and Ravennas read the names from a road map, probably that of Castorius. Each of them differs from the others, and as each recorded the province at a different time, the extent of the system can be shown at three distinct periods. Ptolemy gives us the first century outline which Pliny corroborates to some extent; Ravennas indicates the early third century roads and the Itinerary announces two main roads of the late third century. Only in one respect do all three accounts agree, namely on the vital nature of the Atlantic coast road. It is there in Ptolemy's figures, Ravennas' names and the Itinerary.

In the first century there were four intervening towns between Tangier and Rabat; Zilis, Lixus, Banasa and Thamusida. By the time that Castorius compiled his map, two more stations had been added, Tabernae between

Zilis and Lixus, and Frigidis between Lixus and Banasa. These two stations halve the longer sections of the first century road, so that it was less necessary to hurry over long stretches. One more station was added by the time that the Itinerary was composed, Mercuri (i templum). This was not to provide an overnight stop, for it is too close to Zilis, but to indicate a road junction.

In the first century, Volubilis was joined to the coast by two routes; either, one could go through Gilda to Thamusida or one could take the road to Babba suggested by Pliny and thence, down the river, or by road, to Banasa. In the early third century a new road emerged, through Aquae Dacicae, Gilda, Vopiscianae, Gontiana and Tremulae to Oppidum Novum and thence to Lixus or Tabernae. Perhaps the traffic on this road was too much for the officials of the late third century, or else they considered it advisable to have an alternative route for they joined Oppidum Novum direct to Tangier by an inland road through Novae (Tabernae) and Mercuri(i templum). At the same time in the section from Vopiscianae to Tremulae, they by-passed Gontiana.

The eastern road to Caesariensis is given by Ptolemy in the first century as starting at Gontiana, and passing through Baba, Pisciana, Vobrix and Herpis to Molochath and beyond. Ravennas seems to give a similar route

though not with the same names. From Gontiana, his towns are Baba, Boniuricis, Barsuuli and Argenti to Maura. The Itinerary omits this route, thereby suggesting its decreased importance in the late third century and perhaps the abandonment on the Taza corridor as a means of communication between Tingitana and Caesariensis. This may also be connected with the cessation of the not-infrequent practice of placing the two Mauretaniae under a single governor.

A similar situation exists over the Trik-es-Soltan route. Ptolemy gives Trisidis, Benta, Thicath, Dorath, Boccana specula and Vala on the road south from Tocolosida to the Oued Sous. Ravennas gives another set of names, Sidilium, Bati, Nabia, Fons Asper, Lampica and Egelin on the road from Tocolosida to Mogador. The Antonine Itinerary does not mention this route at all, Perhaps it was considered no longer practicable, as well as outside the frontier of the province. Ravennas gives another route through the towns of Getulia to Perora, but this is not mentioned by either of the other two. Ravennas, however, omits the coastal voyage which Ptolemy and the Antonine Itinerary give. This does not mean that there was no traffic along the coast in the early third century; the town of Parietina, which Ravennas does name, is clearly part of this route. Since he was working from a road map, Ravennas could not indicate a

coastal voyage with the same accuracy that Ptolemy and the Itinerary do.

These roads, however, are not the only ones. It is barely conceivable that there was no connection between the Atlantic road and the Inland road during the late third century. Towns like Tabernae and Novae (Tabernae) might be as little as ten miles away from each other; there ought surely to be a road joining them. Likewise, Banasa must be joined to the Inland road, for the latter passes within ten miles. It would be very annoying for a traveller to go from Banasa as far as Mercuri(i templum) in order to reach Tremulae or Volubilis. Other minor roads not mentioned by the sources must certainly have joined Tamuda with the Atlantic coast in the fourth century if not earlier.

Most of this road-system would become pointless with the withdrawal of troops from the southern parts of the province and their concentration around the Rif. A development of the earlier roads in the Rif area is to be expected, and the construction of bridges in the valley of the Oued Talambot suggests the sort of activity which Julius Verus and Calpurnius Agricola pursued in the Pennines.

Having deduced a historical sequence of roads, it will be more advantageous to study each road and the line

which it takes; not that this can be definitely established, but even a hypothetical line would make subsequent research more profitable.

Little field work has been done around Tangier mainly because, until a few years ago, the International Zone was not provided with an active archaeological staff. This has now been remedied by the Sheriffian government. It seems, however, that the road ran almost due south from Tangier along the side of the hills to Ain Dalia Kebira which was the lowest crossing point on the Rio Mharha. Below this settlement, the river widens out into a very marshy area, but here the hills narrow and provide a short crossing of the valley, which is used by the railway.

From Ain Dalia Kebira the road runs over the Cuesta Colorado, probably through the pass in which is situated the settlement around the marabout of Sidi Nasar, down to the Oued Hachef and across the valley to Dchar Djedid. For many years, it was assumed that the road forked at this point, but Moran and Gallent (op.cit.p.10) state explicitly that the fork is rather more than 5 kilometres north of Dchar Djedid near Mexerah Aomar on the other side of the valley. The Temple of Mercury must, therefore, be north of the junction, and cannot be at Dchar Djedid.

The traditional Moroccan road from Dchar Djedid passes through Arzila, but it is more probable that the Roman road ran straight up the long ridge through El Had de Gharbia to Lalla Djellalia, where it passed the fort probably on the east. From here it ran more or less on the line of the modern road to Tchemmich, Lixus of the Carthaginians and Romans. It is uncertain how the road crossed the river, for the latter has changed its course during the centuries which have elapsed. A ferry or bridge of boats would be most likely. The ferry could be downstream and give access to the rocky promontory on which the modern town of Larache stands; but a bridge of boats or a wooden or brick bridge would have to be upstream, for the port area lies on the east side of the town where ships are sheltered from the westerly winds by the bulk of the hill.

The modern road from Larache to Alcazarquivir runs straight along the crest from Larache for a considerable distance; if this straight stretch were prolonged it would arrive at Soueir, where the fort of Frigidis can be seen. From here to Banasa there are some small intervening hills which present no great difficulty. From Banasa to Thamusida the road probably ran in a straight line across the flat plain. From Thamusida to Sala there are two alternative routes. One runs up the valley of

the Oued Fouarat, through the Forest of Mamora and then along the ridge known as Kalaat Rhamat until it reaches the Oued Bou Regreg. There it makes use of a ford to cross to the south side and then turns west to reach Sala. The other route skirts the western side of the Forest of Mamora, much as the modern road does, and runs down the coast towards Sala crossing the Oued Bou Regreg probably by a ferry.

From Sala, there are no known Roman sites to the south, so that only guesses can be made. There could be a road following the coast-line as far as the Oum er-Rbia and keeping to a crest parallel to the coast, but no traces have been found. There might be another road leading into the country of the Zaers to the south east of Sala, which might take advantage of the ford to reach a camp in a scarp facing the Oued Akreuch; there are supposed traces of a road leading southeast from this camp down to another ford of the Oued Bou Regreg which could be used as evidence for such a road.

The coastal road was in use for most of the Roman Occupation of the province, but probably fell into disuse when the southern half was abandoned in the fourth century. Although it was no longer used by the Army or Roman officials, traders and perhaps occasional flag-showing expeditions would find it very convenient for reaching the Chaouia.

The road from Tangier to the eastern side of the province may have followed the line of the present road to Tamuda. Moran and Gallent (op.cit.p.25) say that it took a more southerly pass than the present road does. It is equally likely that the road made use of an even lower crossing to the north, and ran by way of Roumanne, where remains of uncertain date have been recorded, to Souk el Khemis de Anjera. From this point, where Roman remains have been found, and where the trade of the valley is concentrated today, a track runs almost straight over the hills to Tamuda. This seems a likely road but no evidence of occupation has been found except at Anjera.

From Tamuda a road ran northwards to Ceuta keeping close to the sea from Cabo Negro onwards. It probably continued round the coast as far as the Baie de Benzou, but from there, the cliffs rise sheer from the sea and the road, if any, along this stretch would have to climb to great heights.

Another road from Tamuda probably ran along the edge of the hills, on the south side of the river, to the sea coast and along the shore towards Oued Lau, past the settlement of Sidi Abdesalam des Behar, and certainly as far as the end of the beach. Whether it ran beyond this point, is uncertain. Since the beach would be a natural feature worth noting in the navigational aids, it

probably also acted as the sea port for Tamuda; those ships which preferred to keep out of the river, which according to Pliny was navigable, would unload on this beach, and the goods would be taken by road.

It is probable that two more roads or tracks ran south from Tamuda. There was almost certainly a road to Chauen and the valleys of the Oued Loukkos and its tributaries. This may be a fourth century road, though it might have been used in the earlier period. It is also likely that there was a road from Tamuda to Alcazarquivir, though it might take one of two routes: either it ran for the first part along the southern of the two roads to Tangier, branching off before it reached Sayufa, and following the course of the modern road by way of Dar Chaoui until it reached the Atlantic road in the area of Tabernae, or it may have run southwards towards Chauen before turning westwards through El Khemis to Beni Aros to the Inland road near Alcazarquivir. The latter is a more likely fourth century road, though the former may have been used in the earlier period.

The line taken by the road from Tangier to Alcazarquivir is, like that of many other roads, highly speculative, though there is one piece of evidence. Moran and Gallent

report (op.cit.Grafico II) traces of a paved road some 5 kilometres South East of Et Tnine de Sidi Yemeni, which might be part of the main Tangier-Alcazarquivir road or part of a minor road joining Tabernae and Novae (Tabernae). The latter is more probable for it is hardly likely that the Romans would construct two roads parallel to each other at a distance of barely 5 kilometres. It would have been simpler for the Alcazarquivir road to branch off from Tabernae. The Inland road must take a line further east, probably along the eastern side of the valley of the Oued Kharroub and its tributary the Oued Aiacha and round the Beni Gorfet hills into the upper Mehacen valley, and so down to Alcazarquivir. The road from Tamuda would come in, either in the upper Mehacen valley below El Jemis de Beni Aros if it took the southerly route, or in the Kharroub valley if it came by way of Dar Chaoui. There are reports of Roman constructions at Jandak Hamar, which is at the western end of the gorge of the Mehacen, where it could control traffic. There should also be a road from Alcazarquivir to Rhirha along the valley of the Loukkos, joining the road from Tamuda via Chauen.

The complexity of roads in the northern half of the province is due somewhat to the nature of the area. In the southern half, the country is flatter, more peaceful

and needed less supervision. Another factor is that less work on the road system of Tingitana has been carried out in the French protectorate. There are, however, still some complications because the course of the Inland road has not been traced. In the early period the road ran through Gontiana and Babba to Volubilis. By the third century, a new road had been developed through Træmulæ, Vopiscianæ, Gilda and Aquæ Dacicæ. Babba is some way off the third century route, but Gontiana lies between Tremulæ and Vopiscianæ. It can hardly have been omitted on account of its unimportance, because Sidi Aissa has now been shown to be a large military camp.

From Alcazarquivir, the road ran southwards through the Arbaoua gap to a site in the area of Basra, which probably marked the junction of a branch road leading westwards towards Ouezzane and the upper Loukkos valley. From Basra to Souk el Arba du Rharb, the road crosses an area of low hills to reach the plain of the Sebou. Sidi Aissa owes its importance to its position on the edge of this plain, and to the probable branch road to Banasa. Thence the road keeps to the edge of the hills on the east side of the plain until it turns to cross the Sebou at the ford of Mechra bel Ksiri. Just before the ford, a branch road should lead eastwards to Khemichet and the valleys of the Ouergha and the upper Sebou. Vopiscianæ,

at this ford, would stand at the crossing of the Tangier-Volubilis, and Banasa-Babba roads, Having crossed the Sebou, the Inland road ran across the plain to the Oued Beth passing close to Mechra Sidi Jabeur, where a branch road to the west might lead off towards Thamusida. Gilda, a few miles south, would owe its importance, like Sidi Slimane, its modern successor, to the ford which the Thamusida-Volubilis road took in the early period. From Gilda, the road ran to the gap which is occupied by Moulay Yacoub, the probable site of *Aquae Dacicae*. The strategic importance of this position is clear, since the gap which it controls is the one used by the modern road from Meknes to Sidi Slimane. From Moulay Yacoub, the road has to cross the Bled Arrouch and drop down to the Oued Rdom. When it has climbed up onto the plateau, beside the 'camp de l'épèron barré' it divides, the main road continuing up the Oued Pharoun to Volubilis, and a branch road leading round the edge of the plateau to Tocolosida.

There is an alternative route between Gilda and Volubilis; this runs eastwards to the Bab Tisra, the gap which the Oued Rdom has cut in order to escape from the Plateau into the plain of the Sebou. At each end of this gap are Roman sites, Sidi Kacem on the north and Mechra Sfa on the south. The former had produced evidence of military occupation while the latter is a civil site. Bab

Tisra seems likely to be on the road between Babba and Volubilis as well, though there might be another route from Volubilis, through Ain Chkour and along the western side of the Djebel Tselfat.

The frontier road has been described by M. Raymond Thouvenot in the articles already cited. It ran from the north bank of the Oued Bou Regreg to the Oued Beth, keeping mostly to the south of the Forest of Mamora. M. Thouvenot has identified some structures along this route, but they are only of a minor character. It appears to have the character of a "limes" route rather than of a trunk-road. Furthermore, its course east of the Oued Beth has not yet been traced but it appears to point to Agourai. A branch road leads from Souk es Sebt (north west of Khemisset) towards Ulpium and the crossing of the Rdom which the Inland road uses.

In addition to the roads of the province, there were some extra-provincial routes, but they have already been discussed at some length, and do not need further consideration here.

Without an accurate picture of the road system of a province, it is very difficult to build up an idea of its organisation. It is clear from the foregoing account

that very little is really known about the roads of Tingitana. Only one road has actually been traced on the ground. The reason for the lack of enthusiasm is usually given as the absence of paved or made up structures, but a paved road has been reported and M. Thouvenot has shown that the roads were normally shallow ditches. A full study of the many roads suggested in this study, and probably many more, is a project which could profitably be undertaken. The possibilities have not been exhausted in this study. For example, the discovery of an Antonine coin and some masonry walls in the valley of the Oued Aoudour, implies an occupation during the Roman period, possibly even by Roman soldiers. It cannot yet, however, be related even to the suggested routes, for it is well away from them. A purely hypothetical route from Chauen to Fez would however make use of this valley. But when so much needs to be done, it is not easy to make concrete suggestions.

Maps to illustrate the Road system of Morocco

The first map is drawn from the Africa (air) series on a scale of 1:500,000 and shows the known and presumed course of the roads in the North of Morocco, as suggested in this chapter. Roads in black are practically certain, those in red need verification. Black squares indicate known sites; black capitals, Roman names; black lower case, modern names. Names and sites in red are inferred.

The second map, drawn from the Third Edition Army/Air style map of North Africa on a scale of 1:1,000,000 shows the growth of the Tingitanan road system. Roads inferred from Ptolemy are in black; roads inferred from Ravennas in red, and from the Antonine Itinerary in green.

THE TRIBES OF TINGITANA

A second matter of interest which arises from this consideration of the Ancient Sources is the distribution and movement of the Tingitanan tribes. In addition to the precise information given by Ptolemy, Pliny, Strabo and Ravennas provide other details.

There are also a few inscriptions recording tribes. These are of three types; the official inscription recording the conclusion of peace treaties; the municipal inscription recording the services of one of its number in repulsing a tribal raid; and the epitaph of a member of a tribe. It does not follow that a tribe mentioned on an inscription lived in the immediate area. The municipal inscription, in the nature of things, records the irruption of a tribe who may have lived hundreds of miles away. The commemorative stone may refer to a tribe who lived far from the province, but who were forced to come to terms with the Roman administration. The epitaph may show that it was a stranger who lies buried beneath the soil. Before accepting the proximity of a tribe mentioned on an inscription, it is as well to consider the inscription in its entirety.

The majority of the Moroccan inscriptions, which mention a tribe, refer to the Baquates. Of ten

commemorative inscriptions from Volubilis, recording the making or confirming of peace, eight:-

A.D.140 (Antoninus Pius)	AE.1931 No.	65
A.D.175 (with Macennites) (M.Aurelius)	AE.1953	78
A.D.180 (Commodus)	AE.1953	79
A.D.200 (Septimus Severus)	AE.1953	80
A.D.234 (with Bavares) (Sev.Alexander)	AE.1946	52
A.D.245 (Philip)	AE.1954	110
A.D.277 (Probus)	ILM 46	
A.D.280 (Probus)	ILM 47	

refer expressly to the Baquates and two

c.A.D.162 (Marcus Aurelius)	AE.1941	115 (incomplete)
A.D.241-243 (Gordian III)	AE.1953	77 (incomplete)

do not mention the name of the tribe but must belong to this sequence.

With the exception of AE.1953/78 and AE.1946/52 (the two which mention two tribes), these inscriptions seem to come at the beginning of each principate or on a change of native prince rather than each year. This seems to indicate a state of continuous peace instead of sporadic warfare. The two exceptions may be due to a realignment of tribes; they could suggest that the Baquates were a client tribe who, on two occasions were overrun by non-client tribes the Macennites and the Bavares, with whom the Romans made a special peace. The full implications of this series of inscriptions will be considered later.

The only other inscription from Morocco mentions the Masaiculi, who are identified by Carcopino (LMA p.286) with the Masaesyli. The epitaph (AE.1934 No.122) of

Tacneidir, son of Securus, of the Masaiculi tribe which was found near Anjera, is dated to the end of the second and beginning of the third centuries. The correctness of the identification is disputable, as will be seen later.

Mauretania Caesariensis can provide many inscriptions recording the names of seemingly Moroccan tribes. From Tenes there comes (CIL viii 5663) a municipal inscription to C. Fulcinus Optatus who saved the colony of Cartennae during an invasion by the Baquates. Carcopino (LMA p.265) suggests that it refers to the Hadrianic period, but there is no need to assume that these were Tingitanan Baquates, for many names occur in both provinces, e.g. the Baniuri and Herpeditani are both recorded by Ptolemy in Caesariensis as well as in Tingitana. The Mazices also occur in both provinces. CIL viii 2786 from Lambaesis is the epitaph of P. Aelius Romanus from Mysia, who was decorated for his services in the Montensis land against the Mazices. Other inscriptions, CIL viii 21486 from Affreville, 9324 from Cherchel, 2615 from Lambaesis and 9047 from Auzia, record various divisions of the Bavares. CIL viii 9439/21534 and 21533 from Cherchel, record the Caesariensian Baniuri, while CIL viii 9613 from Miliana may refer to yet another tribe of Mazices. Ammianus Marcellinus mentions the Baiures near Tipasa in Eastern Numidia in A.D.373 (XXIX v.33)

and Mazices near Orleansville in the same year (XXIX v.17, 21 & 25). The Mazices, Bavares and Baquates are stated by the *Laterculus Veronensis* to be in Mauretania, the *Liber Generationis* mentions Baccuates, Mazicei and Massenas (Macannites) and *Excerpta Latina* of St. Jerome mentions Macuaci, (Baquates) and Mazici, but in none of these sources is there any indication of their locality. There is not at present any evidence to suggest, much less prove, tribal migrations between the two parts of Mauretania. In any case it is only natural for nomadic tribes to wander and their descendants, the Berbers, are as individualistic now as the Tingitanan tribes were in the Roman period. Ptolemy tells us explicitly that only a part of the Herpeditani lived in Tingitana; it is likely that many more tribes were split by their search for pasture and ended their wanderings in widely separated areas.

Of modern commentators, Ch. Courtois ("Les Vandales et l'Afrique" pp.96-97), thought that there were two great confederations of tribes, the Bavares living a wandering life over the high Algerio-Moroccan plains, and the Baquates who dwelt in the Middle Atlas south of Volubilis. Carcopino on the other hand states (LMA p.266) that after the Baquates had been defeated by C. Fulcinus Optatus among others, they were removed in Hadrian's reign from

Caesariensis and established south of Volubilis and Sala in the territory which the Autololes had left. The arguments which Carcopino adduces for the disappearance of the Autololes will, however, be shown to be untenable.

The tribes of Morocco with one exception, the almost-legendary Canarii, fall into natural racial and geographical groups and details of each individual tribe will be found in Index A 151-177.

Those living in the extreme south of Morocco, the Aethiopians, are the first group of tribes to be considered. By definition, Aethiopians are of Hamitic origin and should be found in the anti-Atlas and beyond. The most northerly of these tribes according to Agrippa, quoted by Pliny, is the Daratites, living as their name suggests along the bank of the Daras; to the south along the coast is the land of the Perorsian Aethiopians, and inland from the latter live the Pharusians, probably along the Piste de Mauritanie. The Nigritae or Nigrites, associated by Strabo with this tribe, (although he does not say that they are Aethiopians), are said to live on the edge of the country next to the Aethiopians. Ptolemy (IV vi 5) records Nigritae Aethiopes on the Nigir river in Mauretania Gaetulia. They can therefore be confidently postulated on the south of the High Atlas in the area of

Erfoud and Tafilalet. There is no evidence of any movement by these tribes. Since in any case they lived so far from the province, they did not come into contact with the Roman administration, nor is it likely that Roman traders penetrated their territories which were beyond the reach of Roman influence.

To the north of the Aethiopian tribes, and often in contact with them, lived the Gaetulian tribes. Pliny records the names of these tribes, Autololes, Baniurae, Daratites and Vesuni. The Daratite Gaetulians dwelt on the southern slopes of the High Atlas facing the Daratite Aethiopians across the river. Ravennas records this tribal name together with two more Gaetulian tribal centres in his Cosmography. The Vesuni were a part of the Gaetulians who drifted away from the main body and regarded themselves as a separate unit. As they lived near the Aethiopians, they probably dwelt along the coast where the High Atlas reaches the sea, that is between the Tensift and the Sous. The Baniurae are another group of Gaetulians who according to Pliny occupied part of the old territories of the Maurisii, a generic name which refers simply to a native, especially an original inhabitant of Morocco. An incursion of Gaetulians from the desert almost extinguished them, and forced the remnant to seek refuge in the northern part. Gaetulians are on Strabo's evidence, desert tribes -

Ravennas gives a graphic description of the waterless nature of their country - but it is unlikely that they retained their desert habits when they settled in a more fertile area. The Baniurae probably occupied the northern foothills of the Middle Atlas, for Ptolemy records the Baniubae in the upper basin of the Sebou, and Ravennas reports a settlement name, Boniuricis, in the same area. The Autololes have been the subject of considerable discussion by Carcopino. He suggests (LMA pp.258-259) that this tribe was pushed southwards from Sala beyond Mogador, where they were living when Juba established his dye-works on the Purple Islands, beyond Agadir into the Aethiopians land - 'versi ad Aethiopias' (Pliny) - until they are finally reported by Ptolemy (IV vi.6) between Rio de Oro and the Canaries. The Autololes, that is, migrated 2,000 miles in 100 years. This is not impossible but extremely unlikely, for the usual migration is northwards (e.g. Maurisii & Gaetuli) from the desert to the fertile lands. In any case the Gaetulian Autololes were reported by Agrippa between Safi and the Oued Tensift; only the Vesuni, a part of the Gaetuli, were in contact - 'versi ad' - with the Aethiopians; Pliny says that the Autololes dwelt between Sala and the High Atlas. What happened to the Autololes is unknown, but that they vanished into the Sahara is very unlikely. It is possible

that the name Autololes refers to a large group of tribes with similar cultural backgrounds. While this group was in the desert their behaviour warranted a group name, but, after years of living in fertile land, a more sedentary life led to the establishment of individual names in place of the group name, and the names which Ptolemy records in this area are the individual sub-tribes of what was once the Autololes. In this connection, it is as well to notice that Agrippa, reported by Pliny, mentions two tribes, the Selatiti and Masati, on the coast, between the Tensift and the Sous. It would seem, therefore, that there is yet another possibility; that the Autololes established a hegemony over the tribes in this area, which in course of time and possibly through lack of military conquest, faded into nothing at the start of the Roman occupation. What the relationship between Juba and the Autololes was, is unknown; it seems to have been friendly for he himself was able to make expeditions through their territory to the Atlas mountains. Juba's policy could never be called militaristic; the evidence from Volubilis shows that he preferred to hellenize his kingdom as far as possible. The Autololes probably found him an easy suzerain, as they had his ancestors. King Bogus made one expedition against the Western Aethiopians which must have taken him through their lands, but they are not included in the list of his

enemies. A long period of peace and quiet therefore weakened the ties which bound the Autololes to their subject tribes, and the establishment of the Roman province as well as the defeat of Aedemon probably contributed to the sundering of the hegemony.

In the area which the Autololes dominated, Ptolemy records the names of eight tribes, seven of which, Bacuatae, Cauni, Iangaucani, Macanitae, Nectiberes, Vacuatae and Zegrenses are not mentioned by Pliny or Strabo. That the eighth tribe, the Baniubae, can be identified with the Baniurae of Pliny suggests that the other seven are also Autololian sub-tribes. These tribes all lived outside the province, and have not left any record, since they would not be sufficiently Romanised to use Latin on their tombstones. They can be divided into two groups; coastal and interior; the Cauni, Bacuatae and Macanitae occupied the coastal strip and the Iangaucani, Nectiberes, Zegrenses, Baniurae and Vacutae occupied the interior. The last-named tribe is probably related to the central coastal tribe, the Bacuatae; they may be two parts of the same tribe which became separated during the migration from the desert preceding the Autololian hegemony, or were parted by the intrusion of the Nectiberes, who are known to have come from Spain and been settled by Hannibal in Tingitana (Polybius 3,330); they occupied the least

pleasant and least fertile area. The Cauni and Iangaucani, who inhabit neighbouring areas, may be related to each other.

The conclusion of peace treaties with the Baquates can suggest two possibilities, neither of which is mutually exclusive. There is prima facie evidence to suggest that the Baquates moved northwards until they occupied the zone immediately south of the frontier. Equally the evidence suggests that the breakdown of the hegemony enjoyed by the Autololes in the century preceding the Roman occupation of Morocco, was succeeded by the emergence of the Baquates as the paramount tribe and protector of the other tribes in this area. In either case it would be advisable for the procurator to conclude peace with them, and thus ensure that the southern frontier of Tingitana was not disturbed by border warfare. It would be equally natural for the chieftain of the paramount tribe to assume the title of king to show that he led a confederation. It is also possible to regard the name Baquates as a generic term which the Romans gave to the native tribes with which they came in contact, but the fact that some of the inscriptions mention the "gentes Baquatium", suggests that they recognised the Baquates as the paramount tribe. Since the province enjoyed a period of peace it seems likely that the two altars, which, as they mention two tribes, do not fit into the series, record not the

conclusion of a war between the Romans on the one hand and the Baquates and their allies on the other, so much as the successful arbitration by the procurator of a dispute between the extra-provincial tribes. In such a case, it would be justifiable to extend the influence of the "Pax Romana" beyond the frontiers of the Empire.

It may be noted that the suggestion put forward by Tissot, and followed by Besnier, Raymonde Roget and Carcopino that the Baquates were the later Berghwata tribe is no longer tenable. (L. Galland "Baquates and Barghawata" *Hespéris* xxxv (1948) pp.204-6).

The inhabitants of the eastern boundary comprise a fourth group of tribes. According to Ptolemy, who provides the most accurate details, the Taza gap and the Moulouya plain were occupied by a part of the Herpeditani, whose chief settlement, Herpis, may be identified with Taza, and the Maurenses. There is no reason to doubt Ptolemy's veracity at this point, but it would be wrong to assume that the Maurenses were necessarily the Maurusii of Pliny or the Maurisii of Strabo. Strabo makes it clear, and Pliny implies, that Maurisii is the generic term applied to the natives of Tingitana, in contrast to Masaeseyli, the inhabitants of Caesariensis. Strabo, and Julius Honorius, state that the Molochath separates the Maurisii from the Masaeseyli; Pliny says that the

Maurisii are nearly exterminated as are the Masaessyli their neighbours. The Maurenses may be the remnant of the Maurisii driven from their ancestral fertile lands to make way for the Autololes.

The remaining tribes, Mazices, Metagonitae, Salinsae, Socossii, Verbicae, Verves and Volubiliani inhabited the northern part of Morocco. The Salinsae and Volubiliani have obvious places around their cantonal centres, Sala and Volubilis. With the establishment of Roman administration, they would be incorporated into municipal life and their individual tribal personality merged with the corporate body of citizens. Although they were comparatively Romanised it is not surprising that they did not record their native tribe upon their tombstones. The Verves, according to Ptolemy, lived to the northwards of the Volubiliani, that is to say in the Ouergha valley on the southern slopes of the Rif. The Verbicae lived north of Sala, probably on the northern edge of the lower Sebou plain and on the low ridge of hills which separate the Sebou from the Loukkos. The three remaining tribes were situated, according to Ptolemy, as follows, the Mazices to the north of the Loukkos basin, the Metagonitae along the straits, and the Socossii on the Mediterranean littoral. A conclusion which cannot be escaped, is that the tribes in this area of Morocco were more confined than

the tribes outside the province. In the fertile triangle, barely 10,000 square miles are occupied by no less than six tribes. A comparable area south of the province would be occupied by two tribes. The closeness of the northern tribes indicates a smaller population or a more settled form of agriculture needing less space than the nomadic pastoral tribes of the south. In either case, the Metagonitae must be displaced; they should be living around Cape Metagonitis in Eastern Morocco. If Ptolemy was informed that the Metagonitae were close to Spain he might have put this tribe on the straits instead of on their 'barren and waterless cape'. Then, if the Mazices were only a small portion of that tribe whose presence and importance in Caesariensis is recorded on stone, it might almost be said that the fertile triangle was inhabited by two tribes, Verbicae and Verves, and three half-tribes, Mazices, Salinsae and Volubiliani. Whether there were six full tribes in this area or not, it is clear that there is little room for the Masaiculi or Masaesyli, despite the epitaph recording Tacneidir 'ex Masaiculis'. If the Masaiculi were the Masaesyli, and were living, unlikely as it may be, in Tingitana, this epitaph strengthens the suggestion that the Mazices were only a fragment of their tribe. On the other hand,

Tacneidir may have been an immigrant from Caesariensis, the name of whose tribe the local stone mason was unable to spell. Alternatively Masaiculi may be a township in the north of Morocco, perhaps even Anjera itself. There are certainly many settlements in that region whose names are unknown.

Nothing is known about the distribution of tribes in the fourth century. Evidence from Volubilis shows that at one point there was a careful but hurried evacuation; careful because statues were interred inside the houses in places where they could easily be recovered, but hurried because there was no time to organise their removal. It is usual to regard this evacuation as ending the occupation in the southern part of the province. The withdrawal of Roman forces from the southern part of the province would create a partial vacuum. There is no suggestion that Volubilis was destroyed; the finding of some fourth century coins implies that people were still living there. It might be that the Baquates moved in and took possession of the town which their kings had so often visited. Since the series of inscriptions seems to end at A.D.280, the coming of the tribesmen is generally assumed to have happened soon after that date; the same is supposed to have happened at Sala, though

rather later, perhaps in the fourth century, by inference from the mute evidence of the *Notitia Dignitatum*.

There is also the possibility that some of the Baquates were enrolled into the frontier forces of the fourth century province. The garrison of Pacatiana, the *Cohors Pacatiensis*, may have been formed from Baquates who were prepared to defend the empire in much the same way as other forces were formed in other North African provinces. Until further evidence comes to light however, it will not be possible to locate the site of Pacatiana, though a position near the Rharb seems very likely.

Although the Roman withdrawal was followed by the absorption of the evacuated area by the native population, there is no reason to suppose, nor evidence to support, large scale movements of tribes when the Romans occupied the province. It seems likely that the change from Juba's and Ptolemy's nominal sovereignty, had little effect upon the tribes living south of the Sala-Volubilis line. North of that line they exchanged one master for another, but it does not seem likely that Juba had real control over the Autololes.

The conclusion that may be drawn from the accounts of Pliny, Ptolemy and Strabo is that the tribes of Morocco were grouped into federations. During the Roman period the paramount tribes was the Baquates who took over ^{from} the Autololes. These in turn, but well before the Romans occupied Tingitana, had established their ascendancy over the Maurissii who, according to Pliny were the original inhabitants.

The evidence of the ancient sources does not warrant the conclusion that tribes migrated during the Roman period. This was, in any case, an unlikely hypothesis, for the Roman were interested in settled life and attempted (vide Caesar) to stop migrations because they interfered with the economic exploitation of the provinces.

TINGITANA; A PICTURE.

What picture of Morocco would a Roman have gained from reading what his countrymen and the Greeks had to say about that country? He would have learnt a surprising amount of rather useless information, but very little about the shape, conformation and geography of Tingitana. He would know that it had two coastlines, one on each side of the Columns of Hercules, both of which he could navigate with safety following the directions of Ptolemy and the Antonine Itinerary. He would know that there were many capes and bays, river mouths and harbours. He would learn that the northern part of the territory was the most highly civilised during the Roman period, but that the Atlantic coast had been extensively colonised during the Carthaginian period. In addition to the six mentioned by Hanno, there were many others, perhaps as many as three hundred according to Strabo.

He would have learnt that it was a very fertile country; cuckoo-pint, carrot, horse-fennel, thistles, asparagus, bamboo, reeds and rushes carpeted the ground beneath the cypress, willow, mallow and hop trees. Leguminous plants were also prolific, and the vast forests of Tingitana contained all sorts of precious woods. Vine-

yards and palm-groves had been established and could be established again. There is no mention of the olive, and this might indicate that it was imported by the Romans.

There were many animals to beware of in addition to all the barbarian tribes. The woods were, in places, infested with elephants, serpents, baboons, apes, gazelles, lions, leopards, giraffes, polecats and buffaloes, not to mention the crocodiles and hippopotami lurking in some of the rivers. He could take some consolation in the fact that there were no boars, deer or wild goats to bother him, and that the bears which Strabo mentioned were not native to Africa, according to Pliny. He could take pleasure in the thought of fishing for alabetae, coracini, lampreys or sheatfish; if he were an ornithologist, he could spend his leisure observing the habits of the Meleagrides.

As an industrialist, he might view with disfavour the competition provided by the dye-works which Juba had established. He would not find in the sources any suggestion of mineral deposit or precious stones which he could exploit, though he would notice that Strabo mentions golden ornaments which were worn by the Maurusians.

As a trader he could count with confidence upon being able to find a market for his wares in a country so poor and yet so fertile, as well as being able to

reach the furthest parts of the extra-provincial area; either by following in the steps of Suetonius Paulinus and visiting the towns of the Gaetulians, or by keeping to the northern side of the Atlas whose praises had been sung by Pliny. He would also know that when his business was over, he would have no need to return to Tangier, for there was a road through the Taza gap into Mauretania Caesariensis.

On the whole, however, there would be very little inducement for the average Roman to visit Tingitana.

I N D E X A.

ANCIENT PLACE NAMES OF MOROCCO.

This index is compiled from the sources examined in sections 4 - 16. The names are arranged in three groups: towns or settlements, geographical features, and tribes. Each group is arranged in alphabetical order. The individual names are given together with variant spellings and the authorities for these spellings. Where identification is uncertain, a place's position in relation to other sites, as examined in the previous sections, is summarised. Lastly details are given of identifications proposed by other writers, and the present writer's identification. Where remains of Roman occupation have been found at this place, a reference is given to the site as listed in Index B.

The following abbreviations have been used; I list the works in descending order of importance for the present study:

- Roget, Raymonde:- "Index de Topographie Ancienne du Maroc"
Publications de la Service des Antiquités du Maroc, fascicule 4. (1938)
- Besnier, Maurice:- Lexique de Géographie Ancienne (1914)
- Marcy, George:- "Apropos du Périples d'Hannon".
Hesperis XXI (1935)ii p.21 - 72.
- Carcopino, Jérôme:- "Le Maroc, Marché Punique d'Or" in
"Le Maroc Antique" pp.77-163 (1943)
- Tissot, Charles:- Géographie comparée de la Mauretanie Tingitane.
[I have been unable to consult this work, but Roget and others quote it.]
- Thouvenot, Raymond:- La Géographie Ptolemie et la route de
Sous Hesperis XXXIII (1946) pp.373-384.

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36	Maura	84	R. Bambotum	133	R. Subur
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38	Melitta	86	Mount Bracae	135	Surrentium Bay
39	Mercuri (i templum)	87	Campus Rufus	136	Taenia Longa
40	Mercurios	88	Cape Cannae	137	Tamusiga
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46	Oppidum Novum	94	R. Diur	143	R. Valonis
47	Ospinum	95	Mount Diur	144	R. Vior
48	Pacatiana	96	Lake Douriza	145	R. Xion
49	Parietina	97	Drinaupa	146	R. Zilia

A.1. Acra

Acra

Hanno 5

Marcy identifies this pre-Hanno Carthaginian colony on the Atlantic coast with Aglu near the mouth of the Oued Adoudou. Carcopino suggests Masagan (Rusibis). Besnier equates it with Ptolemy's Rhyssadir and identifies it with Agadir. Neither Carcopino nor Besnier is really convincing.

A.2. Acrath

Acrath
Akros

Ptolemy **IV**; i; 3
Scylax 111

From the study of the Northern Coastline of Ptolemy's Geography and the Antonine Itinerary, it will be seen that Acrath can be equated with Parietina (see A.49). Roget's identification with Pointe Omara is therefore rejected.

A.3. Aquae Dacicae

Aquis Dacicis
Aquis Daticis

Antonine Itinerary
Ravennas III;11.

Roget regretted that Tissot's suggested site for this town on the Inland road, Ain el Kibrit, could not be found, and suggested one of the sulphurous springs near Petit Jean. Moulay Yacoub is suggested by the writer. See Index B.57 Moulay Yacoub.

A.4. Arambys

Arambys

Hanno 5

Marcy suggests the mouth of the Oued Noun as the most likely site for this Carthaginian colony on the Atlantic coast. Carcopino suggests Chellah at the mouth of the Oued Bou Regreg. The former is more likely.

A.5. Argenti

Argenti

Ravennas III; 11

From its position in Ravennas' list it seems likely that this extra-provincial settlement should be near Guercif. See Index B.27.

A.6. Babba Iulia Campestris

Baba

Ptolemy IV;i;7

Baba

Ravennas III;11

Babba Iulia Campestris

Pliny V;i;5

From Ptolemy's information, it seems certain that Babba was a town on the route to Caesariensis. Pliny's distances enable one to fix its position in the plain at the confluence of the Sebou and Ouergha valleys. Previous suggestions, now rejected, have been Moulay Abdesalam (Martiniere), Ahl Serif (Tissot), Es Serif (Besnier), Rhirha des Rhouna (Roget), and Ouezzane (Service des Antiquities). See Index B.50. Souk el Djemaa & B.25 Ferme Biarnay (Khemichet)

A.7. Banasa Iulia Valentia

Banasa

Antonine Itinerary

Banasa

Ptolemy IV; i; 5.

Banasa Valentia

Pliny V; i; 5.

Banasa

Ravennas III; 11. V; 4.

The Colony Iulia Valentia Banasa has been located around the marabout of Sidi Ali Bou Djenoun on the south bank of the Oued Sebou. See Index B.47 Sidi Ali Bou Djenoun

A.8. Barsuuli

Barsuuli

Ravennas III; 11.

Since Ravennas alone mentions Barsuuli, it is difficult to locate. According to the writer's hypothesis, it is on the Caesariensis road.

A.9. Benta

Benta Ptolemy IV; i; 7.
Bati Ravennas III; 11.

Besnier suggests that Benta and Argenti are the same place, and while this is possible, Bati and Benta is also a likely equation. Roget locates Benta near the bridge over the Bou Hellou, but this is unlikely. Its probable location (from Ptolemy's information) is on the area of Ain Lias, 50 kilometres S.W. of Azrou.

A.10. Boballica

Boballica Ravennas III; 11
Bovallica Ravennas V; 4.

This town is near the coast south of Rabat; it may be anywhere between Rabat and Mazagan.

A.11. Boccana specula

Boccana specula Ptolemy IV; i; 7.
Turris Buconis Ravennas III; 11.

From Ptolemy's figures, the look-out tower, possibly established by Bocchus, King of Mauretania, was south of the Red Plain, which is usually taken as the Haouz, the area around Marrakesh. Thouvenot suggests Beni Mellal as the right distance, but Asni is more likely.

A.12. Boniuricis

Boniuricis Ravennas III; 11.

The settlement, possibly that of the Baniurae, lies on the ~~Ca~~Caesariensis road somewhere in the valley of the Cued Sebou. No positive identification is possible.

A.13. Caricon Teichos

Caricon Teichos
Caricon Teichos

Hanno 5
Ephorus

This town is one of the Phoenician colonies to which Hanno brought new settlers, and the only one which Ephorus mentions. Marcy proposes any fortress south of Cap Cantin, Carcopino proposes Safi. It may be Mysocarus (see A.43), in which case Safi is the most probable site.

A.14. Castrabariensis

Castrabariensis

Notitia Dignitatum Occidentalis
XXVI; 16.

This fourth century fort might be in the area of Ouezzane or on the Oued Aoudour. Its precise location is unknown. See Index B.11 Aoudour.

A.15. Cottae

Cottae

Pliny V; i; 2.

Tissot first suggested that Ras Achakkar was the site of Cottae, and recent excavations have confirmed the existence of a settlement and factory at this place. See Index B.40 Ras Achakkar.

A.16. Cubucla

Cubucla

Antonine Itinerary

Although Cubucla is usually accepted as a settlement, it is mentioned only by the Antonine Itinerary. Roget suggests Punta Pescadores, but Pointe Jaegerschmidt is a more likely site.

A.17. Dorath

Dorath

Ptolemy IV; i; 7.

According to Ptolemy Dorath is a place on the route to the south; Thouvenot puts it at El-Ksiba, while Roget preserves a discreet silence. A more probable site is near Imdahane where the Trik-es-Soltan crosses the Oued el Abid.

A.18. Duga

Duga

Notitia Dignitatum Occidentalis
XXVI; 14.

At the moment there is no likely place for this site. It is suggested that it might be south of Tamuda.

A.19. Egelin

Egelin

Ravennas III; 11.

From its name it would seem that this place should be near the coast, possibly near Safi or Mazagan.

A.20. Exilissa.

Exilissa oppidum

Ptolemy IV; i; 3.

see A.33 Lissa

A.21. Fons Asper

Fons Asper

Ravennas III; 11.

The Bitter Fountain according to the writer's hypothesis joins Lampica and Nabia. Its position is by no means certain and its identification as the moment impossible. It may be near Beni Mellal on the road from Fez to Marrakesh.

A.22. Frigidis

Frigidis
Frigidis
Friglas

Antonine Itinerary
Ravennas III; 11; V;4.
Notitia Dignitatum Occidentalis
XXXVI; 20.

Ravennas confirms the Itinerary name and Friglas is a late corruption. It was identified by Tissot with the ruins at Soueir, which unfortunately have not been excavated. See Index B.49 Soueir.

A.23. Galapha

Galapha

Ptolemy IV; i; 7.

This settlement has not yet been identified. According to Ptolemy's figures, it is east of Molochath (Guercif) on the road to ~~Caesariensis~~.

A.24. Getuli

Getuli

Ravennas III; 11.

The Gaetuli were a large tribe living on the edge of the Sahara. Which of their meeting places this and A.25 and A.26 are, is uncertain; definite identification is unlikely, but Ksar es Souk is a possibility.

A.25. Getulidare

Getulidare

Ravennas III; 11.

This settlement of the Gaetuli on the banks of the River Daras (see A.93), which is probably the Oued Sous, may be near Taroudant.

A.26. Getulisofi

Getulisofi

Ravennas III; 11.

This town of the Gaetuli might be Cuarzarzate.

A.27. Gigantes

Gigantes

Ravennas III; 11.

This is probably the Roman name of the megalithic monument of Mazora. Whether there was a settlement there is uncertain.

A.28. Gilda

Gilda

Antonine Itinerary

Gilda

Mela IV; 10.

Gilda

Alex. Polyhistor

Gudda

Ravennas III; 11.

Silda

Ptolemy IV; i; 7.

It seems probable that Gilda began as a native settlement well before the Roman occupation. Its fame reached the ears of Alexander Polyhistor, and it was known also to Mela. As it was still important in the time of the Itinerary, it would be surprising to find it omitted by Ptolemy or Ravennas. Neither Pliny nor Strabo mentions it. From the indications given by the sources it must be somewhere near Sidi Slimane, whence a tile stamped "FACTA GILDae" has come. Besnier identified it with El Halyin, following Tissot, but this place is now lost; and Roget is uncertain where it was. See Index B.26 Ferme Priou.

A.29. Gontiana

Gontiana

Ptolemy IV; i; 7.

Gentiano

Ravennas III; 11.

It is surprising that this settlement is not mentioned in the Antonine Itinerary, for the site at Sidi Aissa, just outside Souk-el-Arba du Rharb, which Thouvenot (BAC 1954 p 55) has confidently identified with Gontiana, lies between Vopiscianae and Tremulae. Either the Antonine road did not run through Sidi Aissa, which to judge by the extent of the visible remains is unlikely, or the interval between it and the neighbouring towns was too short for one day's journey. Roget follows Tissot's suggested identification with Mechra Sidi Jabeur, an identification which is now rejected. See Index B.45 Sidi Aissa.

A.30. Gytte

Gytte

Hanno 5

For this Carthaginian colony on the Atlantic coast, Marcy suggests a site near Agadir, while Carcopino suggests Ras Achakkar near the straits. The former is far more likely.

A.31. Herpis

Herpis

Ptolemy IV; i; 7.

Herpis, according to Ptolemy, was North East of Molochat Roget therefore suggests that it might be North of Guercif, but it is more likely to be near Taza.

A.32. Lampica

Lampica

Ravennas III; 11

This settlement ought to be on the road from the Province to Mauretania Egel. The name may refer to the redness of the soil, or to the presence of a volcano.

A.33 Lissa

Lissa

Pliny V;i;2.

See also A.20 Exilissa.

Since both names have the same root, they may refer to the same place. Ptolemy places Exilissa on the straits; Pliny refers to Lissa as near Tingis. Belyounech on the Baie de Benzou is the usual identification, but there are no certain Roman remains there. Alcasarseguer, where remains have been found, is a better identification, but Plage er Rmel is where Exilissa should be.

A.34. Lixus

Lix colonia	Antonine Itinerary
Lix Colonia	Ravennas III;11 V;4
Lix	Ptolemy IV;i;7
Lixus	Pliny V;i;3. V;i;5. V;i;9
Lixos	Strabo XVII;iii;2, XVII;iii;8
Lynx	Strabo XVII;iii;3 XVII;iii;8
Lixus	Scylax 112
Lixe	Alexander Polyhistor
Lixus	Mela III; 10

~~Since Hanno does not mention it, Lixus must have been sufficiently flourishing for it not to need new colonists.~~
Its identification with Tchemmich is indisputable.
See Index B.54 Tchemmich:

A.35. Lucos

Aulucos	Not. Dig. Occ. XXVI;14
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The correct name is unknown, but Aulucos appears to be a corruption of "ad Lucos". It should be on the upper reaches of the Oued Loukkos rather than near its mouth.

A.36. Maura

Maura	Ravennas III;11
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This is one of Ravennas extra-provincial sites whose emplacement is not known, but may be north east of Guercif.

A.37. Melissa

Melissa	Hecateus
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Melissa may well be the name of the settlement of Libyans which Scylax mentions as an African city, on the south bank of the Oued Loukkos, corresponding to the modern Larache.

A.38. Melitta

Melitta

Hanno 5

This Carthaginian colony on the Atlantic coast is placed by Marcy at the mouth of the Oued Masat; Carcopino suggests that it is Melissa and was near the straits. The former is more likely.

A.39. Mercuri (i templum)

ad Mercuri

Antonine Itinerary

This station is only mentioned by the Antonine Itinerary; it is therefore presumably a Third Century site and could be merely a wayside temple at the junction of two roads. Hence it is unlikely that the ruins of Dchar Djedid (see B.20) are Mercury's temple. The shrine should be looked for on the escarpment of the Cuesta Colorada perhaps near Sidi Nasar.

A.40. Mercurios "exploratio"

Exploratio ad Mercurios
Explorazio

Antonine Itinerary
Ravennas III;11

The outpost to the south of Rabat has been searched for diligently, but not found. Roget suggests that it is below the ruins of the Arab mosque at Dchira, and the ruins resemble a small Roman fort in size and shape. There is no evidence, however, of anything below these ruins. No identification is possible and the outpost is still to be found.

A.41. Molochath

Molochath

Ptolemy IV;i;7

This town situated on the river of the same name must therefore be somewhere along the Moulouya. Tabrida is suggested by Roget but Guercif is more likely, although no evidence of Roman occupation has been found there yet. See Index B.27 Guercif.

A.42. Mulelacha

Mulelacha oppidum

Pliny V.i.9

The customary identification, from Tissot to Thouvenot, of this town on a promontory (see A.115) on the Atlantic coast, is with Moulay bou Selham, but Mehdia is equally likely. Neither place is a promontory now.

A.43. Mysocarus - Rhysaddir

Mysocarus portus
Rhysaddir

Ptolemy IV.i.7
Pliny V.i.9

It has been suggested that Mysocarus should read Muri Carus and be equated with Carichon Teichos of Hanno's voyage. It was identified by Tissot with Safi; this fits Ptolemy's figures admirably. Pliny gives the Berber version of the name of the same harbour, which he took from Agrippa.

A.44. Nabia

Nabia

Ravennas III;11;

Nabia is another of Ravennas' place names to the south of the province. Its location is unknown.

A.45. Novae (Tabernae)

ad Novas

Antonine Itinerary.

The full name is lost; the Itinerary uses a short form. The study of the road system implies that Tissot's identification, agreed by Roget, of Sidi el Yemeni is incorrect and that New Taverns lies in the upper valley of the O.Kharroub.

A.55. Sala

Sala co(lo)nia	Antonine Itinerary
Sala Oppidum	Ptolemy IV;i;2
Sala Oppidum	Pliny V;i.5
Sala	Mela III;10
Sala	Ravennas III;11; V;4

Sala was at first identified with the modern town of Salé, but there is no doubt that the ruins beneath the mosque at Chellah represent the Roman colony of Sala. See Index B.18 Chellah-Rabat.

A.56. Selitha

Selitha	Ravennas III;11
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From its position in Ravennas' list, it is possible that Selitha is near Midelt in the valley of the Oued Moulouya.

A. 57. Sidilium

Sidilium	Ravennas III;11
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Thouvenot has suggested that Sidilium should be equated with Trisidis (see A.68).

A.58. Siga

Siga	Mela I;5
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Mela gives no more information than that it is on the Mediterranean coast, but Pliny puts Siga in Caesariensis.

A.59. Subur

Subur	Ptolemy IV;i;7
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This might be Moulay-bou-Selham (see A.42).

A.60. Tabernae

Tabernis	Antonine Itinerary
Tabernis	Ravennas III;11 V;6
Tabernas	Notitia Dignitatum Occidentalis XXVI;19

Tissot was the first to identify this station of the coast road with the visible remains at Lalla Djellalia, an identification which there is no reason to dispute. See Index B.31 Lalla Djellalia.

A.61. Tamuda

Tamuda	Pliny V;i;18
Tamuco	Notitia Dignitatum Occidentalis XXVI;13

Although there is no epigraphic evidence, there is no doubt that Tamuda occupied the south bank of the Rio Martin four kilometres west of Tetouan. Extensive excavation has revealed a fort and a town dating to the period of Juba, if not earlier. See Index B.51 Tamuda.

A.62. Thamusida

Thamusida	Antonine Itinerary
Tamusida	Ptolemy IV;i;7
Tamusida	Ravennas III;11; V;6

At Sidi Ali ben Ahmed, some ten kilometres north-east of Khenitra, extensive remains have been excavated which correspond to Thamusida, although epigraphic proof has not yet been found. See Index B.46 Sidi Ali ben Ahmed.

A.63. Thicath

Thicath	Ptolemy IV;i;7
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Ain Lias is suggested by Thouvenot for this place on the Southern road, but El Ksiba is more likely.

A.64. Thumiateria

Thymiaterion	Hanno 2
Thymiateria	Scylax 112
Colonia ...	Mela III;10

The Carthaginian colony, named (according to Marcy) Thumiateria, is usually identified with Mehdia, but as it is not mentioned by any of the Roman writers except Mela, it should be outside the province, perhaps at Azemmour. See Index B.29.

A.65. Tingi

Tingi colonia	Antonine Itinerary
Tingis Caesarea	Ptolemy IV;i;3
Tingi colonia	Ravennas III;11 V;4
Tingi Traducta Iulia	Pliny V;i;2 V;i;4
Tingi	Mela I;5
Tinge	Strabo III;140
Trinx	Strabo XVII;iii;2
Tiga	Strabo XVIII;iii;6
Thrinke	Hecateus
Thinge	Hecateus

see also Pontion (A.53).

The list of variations here given indicates that Tingi is the stem and the proper name for this place. It seems that it was not known by Hanno, and the earliest settlement is that mentioned by Scylax, named Pontion. Hecataeus names Thrinke as a town near the columns, but this, like Thinge, need not be on the site of Tangier. Pliny's comment suggests that Tinge was established towards the end of the first century B.C., its citizens being brought from elsewhere. It might be a coalescing of the earlier town of Thrinke with the people who used to live at Pontion. Strabo's difficulties with the name of this site tend to confirm this hypothesis. It became a colony in the reign of Augustus. Ptolemy recognises its imperial connections though he does not expressly name it as a colony.

The site of Tingi is beyond dispute. It lies below the modern town of Tangier. See Index B.52 Tangier.

A.66. Tocolosida

Tocolosida	Antonine Itinerary
Tocolosida	Ptolemy IV;i;7
Tocolosium	Ravennas III;11

This, the terminal of the Inland road, is not to be identified with Akhbet-el-Arabi, but with the fort-site four kilometres south of Volubilis. In the absence of a native name, it is always referred to as Tocolosida. See Index B.56 Tocolosida.

A.67. Tremulae

Tremulis	Antonine Itinerary
Tremulas	Ravennas III;11

Although the ruins at Basra, which Tissot considered those of Tremulae, have been proved to be an Idrissite palace, it is likely that Tremulae was nearby.

A.68. Trisidis

Trisidis	Ptolemy IV;i;7
Sidilium	Ravennas III;11

From Ptolemy's figures it is clear that Trisidis is south of Tocolosida. Agourai is the most likely site. See Index B.2 Agourai.

A.69. Turris Buconis

Turris Buconis	Ravennas III;11
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See Boccana specula (A.11)

A.70. Vala

Vala	Ptolemy IV;i;7
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The location of Vala is unknown. From Ptolemy's figures it would appear to be near Taroudant in the valley area of the Oued Sous, between the High and the Anti-Atlas.

A.71 Vobrix

Vobrix

Ptolemy IV;i;7

This settlement on the Taza route should be at the confluence of the Inanquene and the Sebou.

A.72. Volubilis

Volubilis colonia

Antonine Itinerary

Volubilis

Ptolemy IV;i;7

Volubilis

Pliny V;i;5

Volubilis

Mela III;10

Bolubili

Ravennas III;11

Epigraphic evidence proves that Ksar Pharaoun is Volubilis. It has been extensively excavated since 1919. See Index B.30 Ksar Pharaoun.

A.73. Vopiscianae

Vopiscianis

Antonine Itinerary

Bopiscianis

Ravennas III;11

Tissot and Eesnier suggest that Vopiscianae, a station on the Inland road, was situated on the Djebel Kort. There is no evidence to suggest that a road ran through this area, though it might well have done. A more likely site is Mechra bel Ksiri.

A.74. Zilis

Zili

Antonine Itinerary

Zilia

Ptolemy IV;i;2

Zilis Augusta Iulia

Constantia

Pliny V;i;3

Zelis

Strabo III;140 XVII;3;6

Zilia

Alexander Polyhistor

Zili

Ravennas III;11 V;4

The traditional identification of Zilis with Arzila is disproved by the absence of ancient remains there. The identification with Dchar Djedid, now proposed, is based on the road system, as well as the nature, extent and age of the ruins.

See Index B.20 Dchar Djedid.

A.75. Abila

Abila	Antonine Itinerary
Abila columna	Ptolemy IV;i;3
Abila Mons	Pliny V;i;18
Abyla	Mela I;5
Abilyca	Strabo III 170
Abila	Strabo XVII;iii;6
Abilyke promontorium	Scylax 111

Monte Acho is the southern column of Hercules and its identification with Abila is certain. It is unknown whether there was a settlement on the isthmus joining Monte Acho to the African continent, for the modern town of Ceuta has covered it completely.

A.76. River Agna

Agna fluvius	Ptolemy IV;i;2
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It seems probable that Ptolemy was referring to the Oued Massa. Tissot's suggestion, the Oued Beni Tamer, and Roget's Oued Asif Ait Aneur, are both too far north.

A.77. Ampelusia

Ampelusia	Pliny V;i;2
Ampelusia promontorium	Mela III;10
Ampelusia prom	Mela I;5
see A.90 Coteis	

A.78. River Anides

Anides flumen	Scylax 112
see A.146 River Zilis	

A.79. Aquila Major

ad Aquilam majorem	Antonine Itinerary
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The Greater Eagle was one of the coastal features south of Abila. Roget identifies it with Cabo Negro, but this is not the right distance. It should be an outlying reef near Restingua, for the Itinerary does not specify it as a promontory.

A.80. Aquila Minor

ad Aquilam minorem

Antonine Itinerary

Like the Greater Eagle, the Lesser Eagle is a reef rather than a promontory, for the 'Pointe de Castillejos' does not really deserve the title 'Cape'. Ptolemy's name for this reef, which is somewhat older, is Phoebus.

A.81. River Asana

Asana Fluvius

Ptolemy IV;i;2

Anatis Flumen

Pliny V;i;9

Asana Flumen

Pliny V;i;13

see also A.103 River Gna A.91 River Crabis.

The Asana is one of the most noteworthy rivers of the Atlantic coast. The identification proposed by Tissot and followed by everyone else, namely that it is the Oum-er-Rbia, cannot be put aside. It was to this river that Mela gave the somewhat enigmatic name Gna, perhaps a variant of Crabis, the name by which Scylax indicates this river. Ravennas probably means the Ubus to refer to the Oum er Rbia also.

A.82. Atlas Major

Atlas Major

Ptolemy IV;i;2

The Grand Atlas, which is the termination of Ptolemy's version of the Atlantic coast of Morocco, is assumed by Roget to be Cap Ghir, but the distances given by Ptolemy indicate that it is 270 kilometres further south, in fact Cap Dra.

A.83. Atlas Minor

Atlas minor

Ptolemy IV;i ;2

Although on Ptolemy's chart the Lesser Atlas projects westwards, it is unlikely to be Cap Fedala, as Berthelot - quoted by Roget - suggests. It might be Sidi Abd er Rahmane, a causeway island west of Casablanca.

A. 84. River Bambotum

Bambotum flumen

Pliny V;i;10.

Although there are no longer any crocodiles or hippopotami there, the Oued Draa is the most likely identification for this river.

A. 85. Cape Barbitus

ad promontorium Barbiti
see A.108 Cape Iagath

Antonine Itinerary

The Cape of the Lute is equated by Roget with Ptolemy's Cape Oleastrum, but it has been shown that it should be equated with Cape Iagath and identified as Cabo Negro, a few miles north of Rio Martin.
Index B. 15 Cabo Negro.

A.86. Mount Braca

Bracae Montis

Pliny V;i;10

Bracae montes

Ravennas I;3

Praxe montes

Ravennas III;9

See A.142 Cape Ussadium

Mount Braca, which stands on a westward promontory, is the name which Agrippa uses for the western end of the High Atlas. Cap Ghir is obviously the promontory.

A.87. Campus Rufus

Campus Rufus

Ptolemy IV;i;5

The Red Plain is identified by Thouvenot with the Haouz around Marrakech, an identification which is accepted in this study.

A.88. Cape Cannae

Canarum Promontorio

Antonine Itinerary

The Cape of Reeds is identified by Besnier with Pointe d'Abdou, and by Tissot with Ras Sidi Aissa Ounats which is 30 kilometres east of Alhucemas; but Cabo Quilates is the Spanish translation of the Latin.

A. 89. Lake Cephesias

Cephesias Lacus

Scylax 112

The identification proposed by Tissot, Rio Mharha, and accepted by Roget, does not fit the details given by Scylax. It would appear that Cephesias was a lagoon just east of Tangier.

A. 90. Coteis - Abridia

Abridia

Ravennas III;11

Cotes promontorium

Ptolemy IV;i;2

Cotes promontorium

Strabo XVII;iii;6

Coteis

Strabo XVII;iii;2

Cotes Sinus

Scylax 112

See also A.77 Ampelusia, A.105 Cape Hermaeus

A.107 Cape Hesperis

The Coteis is the area west of Tangier, the most westerly point of which is Cap Spartel. This Cape is variously called Ampelusia by the Greeks (Mela), Hermaeus by the early navigators (Scylax), and Hesperis (Agrippa). In Ravennas' time the name Abridia appears to have been used to denote the same stretch of country. The Cotes gulf, which Scylax mentions, is to be identified not with the coastline south of Cap Spartel (as Tissot quoted by Roget suggested) but with the Bay of Tangier.

A. 91. River Crabis

Crabis flumen

Scylax 112

see A.81 River Asana

A. 92. River Cusa

Cusa fluvius

Ptolemy IV;i;2

This river is more probably the O. Nefifikh than the O. Mellah, for the former has a larger and more sheltered estuary. Tissot, quoted by Roget, suggested the O. Merzeq.

A.93. River Darat

Darat flumen

Pliny V;i;9

The River Darat is more likely to be the O. Sous than the O. Draa, despite the similarity of name. Tissot, quoted by Roget, equates the Darat with Hanno's Lixus and Scylax' Xion and identifies it with the O. Draa. It is unfortunate that Ptolemy does not mention it; instead, he mentions the bay into which it flows.

A.94. River Diur

Diur fluvius

Ptolemy IV;i;2

Tissot, probably correctly, identified the estuary of this river as the lagoon called Oualidia, which is long enough to resemble an estuary.

A.95. Mount Diur

Diur mons

Ptolemy IV;1;6

It is clear from Ptolemy's figures that this mountain is the Jebel Zerhoun, which divides the plateau of Volubilis from the Sebou valley.

A.96. Lake Douriza

Douriza lacus

Hecataeus

There is little chance of identifying this lake which Hecateus records near the R. Lixus.

A.97. Drinaupa

Drinaupa insula

Scylax 111

This island, which Scylax found deserted, has been identified by Tissot with the Isla d'Alboran. There are other possibilities, e.g. Penon de Velez de la Gomera, but little chance of sure identification.

A. 98. Durdus Mountains - Mount Dyris

Durdus mons

Ptolemy IV;i;6

Dyris mons

Pliny V;i;13

The western part of this mountain chain is placed by Ptolemy east of Marrakesh. It would appear therefore to be the Atlas mountains which, according to Pliny, were called Dyris by the natives.

A. 99.. River Dya

Dya fluvius

Ptolemy IV;i;2

Tissot identifies this with the O. Mellah but it is more likely, in view of the distances, to be the O. Cherat, which has a fair anchorage at its mouth.

A.100. Elephas

Elephas

Strabo XVII;iii;6

Tissot, followed by Roget, identifies this with Djebel Moussa, which is normally identified with Seven Brothers. The only certain information is that the width of the straits is measured from Elephas, which should therefore be opposite Tarifa. The most likely possibility is Isla Perekhil.

A.101. Emporicus gulf

Emporicus sinus Ptolemy IV;i;2
Emporicus sinus Strabo XVII;iii;2&3
See A.125 Sagigi bay

The Gulf of Merchants no longer exists as a gulf; geographers, on the whole, do not believe that there could have been a gulf of any size on the Atlantic coast in historic times. All the indications of the ancient geographers, however, lead to the assumption that there was a considerable bay along which the Carthaginians established trading posts. From their evidence it appears to have been at the present mouth of the Sebou and it may have extended inland for 10 miles to Thamusida and northwards from Mehdia for about 20 miles. Tissot suggested that it referred to the whole of the coast from Cap Spartel to Cap Cantin, but this stretch is neither a gulf nor a bay.

A. 102. River Ger

Ger fluvius Pliny V;i;15

Pliny mentions the river Ger at the end of Suetonius Paulinus' expedition into the Atlas. Besnier suggests that its proper name is Niger and identifies it with the Oued Guir, which flows into the Sahara from the southern slopes of the Atlas. There is no reason to dispute the identification of the river, but its full name seems more doubtful; Ptolemy (IV;vi;4) distinguishes two rivers, the Gir and the Niger, of which the former would be the river which Suetonius Paulinus reached.

A.103. River Gna

Gna fluvius Mela III;10
See A.81 Asana

A.104. Cape Hercules

Herculis promontorium Ptolemy IV;i;2

The peninsula of Mogador is rather more suitable than Cap Sim or Tissot's suggestion, Ras el Hadid. The latter capes have not as good anchorages for coastal shipping.

A.105. Cape Hermaeus

Hermaeus promontorium Scylax 112
See A.90 Coteis.

Roget records two identifications for Cape Hermaeus, Ras el Kouas suggested by Tissot, and Fedala suggested by Berthelot. According to Scylax it faces Europe, and it must therefore be Cap Spartel.

A.106. Hesperides

Hesperidum insula et horti Pliny V;i;3
Ara Herculis Pliny V;i;4
Ara Herculis Strabo XVII;iii;3

The legendary island and gardens of the Hesperides, together with the Altar to Hercules which stood there, were somewhere in the estuary of the O. Loukkos. If Pliny's statement that the island was not submerged by the tide is accepted, it would appear that it was a floating island and it may not in that case correspond with either of the identifications, Rekada (Tissot) or Jezira (Montalban), quoted by Roget.

A. 107. Cape Hesperis

Hesperis promontorium Pliny V;i;10
See A.90 Coteis.

This cape cannot be the Hesperian Horn which Ptolemy mentions (IV;vi;2) in longitude 13°E latitude 8°N, since the Atlas, according to Agrippa, was halfway between Theon Ochema (identified as the Anti Atlas) and Cape Hesperis; the latter is at the other, i.e. Northern, end of the Moroccan Atlantic Coast.

A. 108. Cape Iagath

Iagath promontorium Ptolemy IV;i;3
See A.85 Cape Barbitus
 B.15 Cabo Negro

A. 109. R. Laud

Laud flumen

Pliny V;i;18

This river of the Mediterranean coast is identified by Roget, with the Oued Lau largely perhaps, because of the similarity of name. There are, in addition, traces of Carthaginian and Roman occupation in that area, though no details have been published. It would be natural for the Roman influence to extend from the valley of the Rio Martin to the next valley along the coast, that of the Oued Lau.

A.110. River Lixus

Lixus Fluvius

Ptolemy IV;i;12

Lixus amnis

Pliny V;i;4

Lixus flumen

Mela III;10

Lixus flumen

Scylax 112

Lixos flumen

Alexander Polyhistor

This river is without doubt the Oued Loukkos. It may be equated with the Turbulenta or the Davina rivers which Ravennas mentions, as Besnier and Roget suggest, though it is not particularly swift in the middle and lower reaches. It may have been conflated with the Subur to produce Ravennas' Subulcus.

A.111. River Lixus

Lixus flumen

Hanno 5

See also A.145 Xion

It seems clear that this river Lixus is not the same as A.110. From Hanno's account it would appear that it entered the sea in the area of the Anti-Atlas; it was probably the Oued Draa.

A. 112. River Malva

Malva flumen	Antonine Itinerary
Malva fluvius	Ptolemy IV;i;3 & 4
Malvane fluvius	Pliny V;i;18
Malba	Ravennas III; 10

The identification of this river has already been discussed in section 5 of this study. The Antonine Itinerary indicates a position corresponding to the Oued Kiss, while Ptolemy's figures indicate a correspondence with the Oued Tlata. In both sources it marks the eastern limit of the Tingitan coast. For Pliny, however, it is more probable that the Malvane should be identified with the Moulouya, for he speaks of it as navigable. It seems likely that the Moulouya, because of its greater length, was the boundary between the twin provinces of Mauretania, (see A.115 River Molochath).

A.113. River Masatat

Masatat flumen	Pliny V;i;9
See A.144 River Vior	

This river is the southern neighbour of the Quosenum, which is usually identified as the Tensift. It is likely to be a minor stream, the Oued El Ksob, which enters the Atlantic near Mogador.

A.114. Metagonium

Metagonitis promontorium	Ptolemy IV;i;3
Metagonium	Strabo XVII;iii;6
Metagonium	Strabo III;v;5
See also A.162 Metagonitae	

Gsell, quoted by Roget, suggests that the name Metagonium should be applied to the whole of the Mediterranean coast of Morocco. Strabo, however, calls it a barren and waterless place and this applies even today to the area south of Cabo de Agua, which is identified with Metagonitis Cape. In III;v;5 (quoting Eratosthenes), Strabo suggests that the name Metagonium can also be applied to the area of the Straits of Gibraltar, i.e. the Coteis. It is probably Eratosthenes' misinterpretation which Ptolemy followed when he placed the Metagonian tribe in that area, instead of near Cape Metagonitis.

A. 115. River Molochath

Molochath Fluvius	Ptolemy IV;i;3
Mulucha amnis	Mela 1;5
Molochath flumen	Strabo XVIII;iii;6
see A.112 River Malva	

Ptolemy places the mouth of the Molochath in a position corresponding to the Oued Kiss, but this was due to inaccurate information. Mela makes the Mulucha separate the kingdoms of Bocchus and Jugurtha. Strabo states that the Molochath separates the Maurusians from the Masaesylians. As an easily recognised boundary, it must be identified with the Oued Moulouya.

A.116. Cape Mulelacha

Mulelacha promontorium	Pliny V;i;9
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There is according to Pliny a town (see A.42) on this headland, and for this reason most commentators, including Roget, regard Moulay bou Selham as the modern identification. Mehdia, on the southern side of Merchant's Gulf, is equally probable and stands on a more prominent headland. No ancient remains have been found at either place.

A.117. Cape Oleastrum

Oleastrum promontorium	Ptolemy IV;i;3
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The Cape of Wild Olives, 20 miles south of Rio Martin, should be identified with Ras Targa, the headland on the south of the valley of the Oued Lau.

A.118. Phocra Hills

Phocra mons	Ptolemy IV;i;6
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According to Ptolemy, the Phocra Hills run parallel to the Atlantic coast. He is referring to the steep escarpment which divides the Chaouia, the coastal plain, from the Rehamma, the plateau, for over 200 miles.

A. 119. Cape Phoebus

Phoebi promontorium
See Aquila minor

Ptolemy IV;i;3

A. 120. River Phuth

Phuth fluvius
Fut amnis
See A.122 River Quosenum

Ptolemy IV;i;2
Pliny V;i;13

The Phuth is commonly believed to be the Oued Tensift, an identification which is not disputed.

A. 121. Promontory

Promontorium

Antonine Itinerary

Tissot suggested Pointe bou Sekkour as the identification for this unnamed cape. It is more likely that it should be identified with the headland of Alcalá opposite Penon de Velez.

See Index B.6 Alcalá

A. 122. River Quosenum

Quosenum flumen
See A.120 River Phuth

Pliny V;i;9

This name occurs in Agrippa's account of the coast and antedates the name Phuth, given by Ptolemy and Pliny. There is no reason, therefore, why it should not refer to the Oued Tensift, which is the most important stream in the area south of Cap Cantin.

A.123. Rusibis Harbour

Rusibis portus
Rutubis portus

Ptolemy IV;i;2
Pliny V;i;9

Besnier suggested Mazagan as the identification of Rusibis, but Roget prefers Moulay Abdullah. Ptolemy and Agrippa (quoted by Pliny) agree in placing it about 220 miles from the River Lixus. Ptolemy also says that it is 19 miles north of the Asana (see A.81) identified with the Oum er Rbia, a river which is not mentioned by Agrippa. It is suggested that the harbour of Rusibis is in fact the estuary of the Oum er Rbia, and that Ptolemy assumed that the cove under the lee of Cap Blanc was the mouth of the Asana. Rusibis is the harbour of Thumiateria, which is not otherwise named and is identified with Azemmour.

A. 124. Cape Russadus

Russadi (promontorium)
See A.130 Cape Sestiaria

Antonine Itinerary

There is no doubt that the usual identification of Cape Russadus with Cabo Tres Forcas is correct.

A. 125. Sagigi Bay

Sagigi sinus
See A.101 Emporicus gulf

Pliny V;i;9

Sagigi is Agrippa's name for Emporicus Gulf.

A.126. River Sala

Sala fluvius
See A.128 River Salsum

Ptolemy IV;i;2

This river is not to be confused with A.127 Salat. It is mentioned by Ptolemy at the southern end of Tingitania, and should be identified with the Oued Noun.

A.127. River Salat

Salata fluvius	Ptolemy IV;i;2
Salat Flumen	Pliny V;i;9 & 13
Salensis flumen	Ravennas III;11

This river is without doubt the Oued Bou Regreg as Besnier, amongst others, suggested.

A.128. River Salsum

Salsum flumen	Pliny V;i;10
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See A.126 River Sala

A.129. Septem Fratres

Septem Fratres	Antonine Itinerary
Septem Fratres	Ptolemy IV;i;3
Septem Fratres	Pliny V;i;18
Septem Fratres	Mela I;5
Septem Fratres	Strabo XVIII;iii;6
Septem Fratres	Ravennas III;11

The Seven Brothers is perhaps the most outstanding feature of the African side of the Straits. It is mentioned by every serious writer, though opinions differ as to its significance. For Mela the hill is called Seven brothers from the number and similarity of its peaks. Strabo on the other hand believes that the exploits of seven brothers are commemorated at the foot of the hill. The Djebel Moussa has a large number of peaks, of about the same altitude; when sailing past them it is impossible to distinguish the seven referred to by the ancients. The number Seven probably means 'multitude' 'Infinite' or more prosaically 'uncountable'.
[Compare the 'Nine Nicks of Thirlwall', in Northumberland.]

A.130 Sestiaria Cape

Sestiaria promontorium	Ptolemy IV;i;3
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The Cape of the Six Altars is as picturesque a name as its successor, Cabo Tres Forcas. Whether it refers to six actual altars is unknown; it might refer to six headlands on this long and rocky promontory.

A.131. Six Islands

ad Sex insulas

Antonine Itinerary

These are without doubt the islands in the Bay of Alhucemas, as Roget suggested.

A.132. Cape Soloeis

Solis mons	Ptolemy IV;i;2
Solis promontorium	Pliny V;i;9
Soloeis promontorium	Hanno 3
Soloeis promontorium	Scylax 112

The correct name for Cap Cantin, according to Marcy, is Soloeis; he relates it to the Berber 'sulwais' meaning 'horse's footprint'. Carcopino points out that the horse was Neptune's animal, and that Hanno erected an altar to Poseidon at that point. the coast to the northwards of Cap Cantin is now known to have been the site of many Carthaginian settlements (Luquet, Hespéris XLII 1956 p. 117 - 132), and Cap Cantin is a natural focal point for traders as well as colonists.

A.133. River Subur

Subur fluvius	Ptolemy IV;i;2
Sububus amnis	Pliny V;i;5
Sububa flumen	Pliny V;i;9
Subulcus flumen	Ravennas III;11

The words which Pliny uses to describe the R. Subur 'amnis magnificus et navigabilis' apply particularly to the Oued Sebou; the fall in the last 250 kilometres is only 25 metres and ships drawing less than 0.80 metres can sail beyond Banasa and Babba as far as Fez and even beyond. The name Subur survived into the Arab period. The explanation of Ravennas name Subulcus seems to be that it is really two names joined together.

A.134. Suriga

Suriga
see A.135 Surrentium

Ptolemy IV;i;2

Suriga is placed by Ptolemy immediately south of Cap Ghir, a position which corresponds with Agrippa's Surrentium bay.

A.135. Surrentium Bay

Surrentium sinum

Pliny V;i;10

The name Surrentium could be taken to apply either to the bay or to the promontory. Since the promontory has another name, it is proposed to identify Surrentium with the bay, into the Oued Sous flows.

A.136. Taenia Longa

Tenia Longa
Taenia Longa

Antonine Itinerary
Ptolemy IV;i;3

Although both sources mention this name on the same coast, it is not likely to be a settlement, as Roget suggests in proposing to identify it with Anse des Peupliers. In fact, the two sources put the name in different places. The explanation is that they are referring to an easily recognised stretch of coast, easily recognised because it is a long beach, as the translation of the name implies. Two such long beaches can be found in the places assigned to them by the sources. For the Antonine Itinerary, Long Beach is the stretch of sandy shore immediately south of Rio Martin, at the southern end of which is a convenient anchorage for ships, and a handy road to the settlement of Tamuda some 10 miles inland (See Index B.44, Sidi Abdesalam des Behar, for evidence of early traders.) Ptolemy's Long Beach, however, is much further east, and refers to the sand banks of Cabo Quilates. Here, on the east side of the Bay of Alhucemas, is another long stretch of sand worthy of notice by navigators.

A.137. Tamusiga

Tamusiga

Ptolemy IV;i;2

Tissot, followed by Roget, identifies Tamusiga with Mogador, but this is unlikely. It may be a navigational hazard, probably an outlying reef, between Mogador and Cap Ghir.

A.138. River Tamuda

Thamuda fluvius

Ptolemy IV;i;3

Tamuda Flumen

Pliny V;i;18

Tamuada fluvius

Mela 1:5

The identity of the River Tamuda is beyond dispute. The Rio Martin not only flows past the town of Tamuda but provides the easiest route for reaching the interior of the Spanish Zone from the Mediterranean coast.

A.139. Theon Ochema

Theon Ochema

Pliny V;i;10

see A.107 Cape Hesperis

Although Ptolemy (IV;vi;3) puts the Chariot of the Gods below the Tropic of Cancer where Hanno saw it, Agrippa uses Theon Ochema to name the Everlasting Hills, meaning the Anti Atlas; since it was over 1000 miles from Cap Spartel, it probably indicates Cap Juby rather than Cap Dra.

A.140. Three Islands

ad Tres Insulas

Antonine Itinerary

The Three Islands referred to by the Itinerary are the Islas Chafarinas or Zafarinas (Roget's spelling).

A.141. River Una

Una fluvius

Ptolemy IV;i;2

Tissot, followed by Roget, identifies the Una with the Oued Tafetna or Oued Igouzoul. Neither is as likely as the Oued Massa.

A.142. Cape Ussadium

Ussadium promontorium
see A.86 Mount Bracae

Ptolemy IV;i;2

Besnier and Tissot identified Ussadium with Cap Sim but this is too near Cap Cantin. It is more likely to be Cap Ghir.

A.143. River Valonis

Valonis fluvius

Ptolemy IV;i;3

The estuary of the Valonis is the only one recorded by Ptolemy on the straits. It is usually identified (following Tissot) with the Oued El Ksar, but this stream is not easily seen from the sea. It is therefore more likely to be the Oued el Lyam, some 17 kilometres east of Tangier.

A.144. River Vior

Vior flumen
see A.113 River Masatat

Pliny V;i;13

According to the natives reported by Pliny, the Vior enters the sea between the Oued Tensift and Cap Ghir. It is therefore in the same position to the Phuth (see A.120) as the Masatat (see A.113) to the River Quosenum (see A.122). Gsell, quoted by Roget, identified it with the Oued El Ksob.

A.145. River Xion

Xion fluvius

Scylax 112

It is usually assumed that the Xion is in the south of Morocco, and that it is the river which Hanno called Lixus. Scylax agrees with Hanno in that the banks of this river, if it is the same, are inhabited by Aethiopian tribes. It appears, therefore, that Scylax and Hanno were referring to the Oued Draa.

A.146. River Zilia

Zilia fluvius

Ptolemy IV;i;2

see A.78 River Anides

Since only Ptolemy mentions this river, it must be one of the less magnificent rivers of Northern Morocco. The Oued Halou, suggested by Roget, is however almost insignificant compared to its neighbour, the Rio Mharha. This river is joined very near its mouth by the Oued Kharroub, which flows past the ruins of Dchar Djedid (see B.20) which is identified as Zilis (A.74). The Anides, which Scylax records between Cap Spartel and the Oued Loukkos, must be the same river.

A.147. Daratite Ethiopians

Aethiopiai Daratites

Pliny V;i;10

This tribe was noted by Agrippa along the coast near the River Drat (see A.93). Their territory therefore ran from the Oued Sous to that of the Perorsi (see A.148).

A.148. Perorsian Ethiopians

Aethiopiai Perorsi

Pliny V;i;10 & 16

Perora

Ravennas III;11

see also A.51

The Perorsian Ethiopians are recorded by Agrippa, by Pliny himself, and probably by Ravennas. Their tenure was presumably continuous from 100 B.C. to A.D. 300 at least, in the area around Ifni, to the south of their Daratite kinsmen.

A.149. Autololes

Autololes

Pliny V;i;5 & 7

Gaetuli Autololes

Pliny V;i;9

Roget separates the Autololes into two tribes, the Autololes proper near Rabat, and Vesuni, a subtribe, near Agadir. From Pliny's account however, it is probable that the Autololes and the Vesuni were two parts of the Gaetuli. Agrippa records the Gaetuli Autololes between Safi and the O. Tensift. In Pliny's time, they dominated the deserted places on the way to the Atlas from Sala, and could be said to have established a hegemony over the other Gaetulian tribes.

A.150. Baquates

Baccuates

Antonine Itinerary

Bacuatae

Ptolemy IV;i;9

Inscriptions from Volubilis

Ptolemy places the Baquates on the coastal plain south of Casablanca. They probably dominated the extra-provincial tribes to such an extent that the Roman procurators found it easier to conclude peace with them, as representing all the tribes, than with each individual tribe. The Antonine Itinerary also gives this impression by saying "Mauretania where the Baccuates ... live".

A.151. Baniurae

Baniubae
Baniurae
see A.12 Boniuricis

Ptolemy IV;i;5
Pliny V;i;17

During the Roman period, the Baniurae inhabited the valleys of the upper Sebou and the Inanouene. They were, according to Pliny, a Gaetulian tribe in origin, and it may be that the other extra-provincial tribes were also Gaetulian.

A.152. Canarii

Canarii

Pliny V;i;15

In reporting Suetonius Paulinus' expedition across the Atlas, Pliny says that the Canarii inhabited the southern slopes of the Atlas. He does not, however, say that they are human, and it seems more likely that they were baboons.

A.153. Cauni

Cauni

Ptolemy IV;i;5

On the coastal plain between the Baquates and the town of Sala is the territory that Ptolemy ascribes to this tribe.

A.154. Daratite Gaetulians

Gaetuli Daras
Getulidare

Pliny V;i;10
Ravennas III;11

The Daratite Gaetulians were close neighbours of the Daratite Ethiopians, (A.147), and lived on the north bank of the Oued Sous.

A.155. Ianguaucani

Ianguaucani

Ptolemy IV;i;5

Inland from the Cauni, in the upper tributaries of the Bou Regreg, lived the Ianguaucani. They could be kinsfolk of their neighbours on the coast.

A.156. Herpeditani

Herpeditanorum pars
see A.31 Herpis

Ptolemy IV;i;5

Only a part of the Herpeditani lived in Tingitanza; the greater part lived in Caesariensis. Those who lived in Morocco were numerous enough to have a tribal centre, Herpis, probably near Taza. Their territory lay on the route which joined Tingitanza to Caesariensis.

A.157. Macennites

Macanitae
Macenites

Ptolemy IV;i;5
Antonine Itinerary
Inscription from Volubilis

Roget (following St. Martin) identifies this tribe with the Miknassi who built Meknes. In the Roman period they lived south of the Baquatae (see A.150), on the coastal plain between the Oum-er-Rbia and the Atlas. They are mentioned with the Baquates by the Itinerary, in such a way as to suggest that they occupied half of Tingitanza; this is unlikely.

A.158. Masaesylii

Masaesylii
Masaesylii

Pliny V;i;17
Strabo XVII;iii;6 & 7

This tribe does not belong to Tingitanza but it has been included since it is mentioned by Pliny and Strabo in the sections devoted to this province. Its real home is Caesariensis.

A.159. Masati

Masati

Pliny V;i;9

Agrippa reported the existence of Masati together with a river Masatat, (see A.113), from which they may have taken their name. It is possible, therefore, that Agrippa did not know their real name and as they lived in the same area as the Macenitae, they may be the same tribe.

A.164. Nigritae

Nigritae
Nigretes

Strabo XVII;iii;3
Strabo XVII;iii;7

Strabo associates this tribe with the Pharusians (see A.165). Ptolemy (IV;vi;5) records the Nigritin Ethiopians on the Nigir river in Mauretania Gaetulia. Strabo simply says that they lived a long way from Lixus.

A.165. Pharusians

Pharusii
Pharusii
see A.50 Paurisi

Pliny V;i;10
Strabo XVII;iii;3 & 7

According to Strabo this tribe also lived a 30 days' journey from Lixus. Ptolemy (IV;vi;6) records them also in Mauretania Gaetulia. They lived inland from the Perorsians (see A.148), probably on the southern slopes of the Anti-Atlas.

A.166. Salinsae

Salinsae

Ptolemy IV;i;5

This is one of the easiest tribes to locate. Although Ptolemy does not associate them with either the town of Sala (see A.55) or the river Salat, (see A.127), it is certain that they lived in the area south of the Forest of Mamora.

A.167. Selatiti

Selatiti

Pliny V;i;9

This tribe is associated by Agrippa with the river Quosenum (see A.122); they therefore lived in the area of the Qued Tensift. They may have preceded the Gaetulian tribes; they do not seem to be related in name to any of the later tribes.

A.168. Socossii

Socossii

Ptolemy IV;i;5

This tribe lived on the Mediterranean coast, that is on the fringe of the Rif mountains, between Rio Martin and Melilla.

A.169. Vacuatae

Vacuatae

Ptolemy IV;i;5

The northern foothills of the Middle Atlas is the home of this tribe who may have been kinsfolk of the Baquates, (see A.150).

A.170. Verbicae

Verbicae

Ptolemy IV;i;5

The territory of the Verbicae, lay between the Mazices and the Salinses, that is on the alluvial plain of the Sebou.

A.171. Verves

Verves

Ptolemy IV;i;5

Ptolemy places the Verves between the Socossii and the Volubiliani, that is in the southern foothills of the Rif. Roget follows Tissot in identifying the Verves with Ouergha, the name of the river which drains these foothills.

A.172. Vesuni

Vesuni

Pliny V;i;5

According to Pliny this is a splinter tribe which had cut itself off and moved nearer the Ethiopians. Whether they should be considered a part of the Autololes or of the Gaetulians is uncertain; the latter is more probable. Equally uncertain is the area they occupied. They may have moved along the coast or through the mountains; the former is more likely.

A.173. Volubiliani

Volubiliani

Ptolemy IV;i;5

There is no doubt that this tribe lived on the Volubilis plateau.

See A.72 - B.30 and B.60.

A.174. Zegrenses

Zegrenses

Ptolemy IV;i;5

According to Ptolemy, the Zegrenses lived south of the Red Plain (see A.87,) that is to say around Marrakech and the northern slopes of the High Atlas.

Map. A.

This map drawn from the Third Edition Army/Air style map of North Africa on a scale of 1:2,000,000 shows the known or presumed location of all the sites named in the index with three exceptions:

89 Lake Cephesias
96 Lake Douriza
106 Hesperides.

Each location is numbered in accordance with the index, e.g. 7 - A.7. Banasa Valentia.

INDEX B

ROMAN SITES IN MOROCCO

This index is offered as a replacement for the lists given by L. Chatelain in "Le Maroc des Romains" and PSAM 3 (1938). Each site is listed under its Arab name as far as possible, and described with references to the published works. Not every article published is necessarily referred to in the description. Where inscriptions are necessary they are quoted in notes. Any certain identification is mentioned and proof given; deduced identifications are also mentioned. Cross references are made to Index A.

The following abbreviations have been used:

PSAM	Publications de la Service des Antiquités du Maroc.
LMR	Le Maroc des Romains (1944)
DUES	Durham University Exploration Society - Archaeological Report (1956)
MJSM	Memoria por la Junta Superior de Monumentos
BAC	Bulletin Archéologique du Comité (Afrique du Nord)
CRAI	Comptes Rendues á l'Académie des Inscriptions et Belles Lettres
ILM	Inscriptiones Latines du Maroc (1942)
BSA	Bulletin de la Société Nationale des Antiquaires
AE	Année Epigraphique
VPRNM	Vías y Poblaciones Romanas en el Norte del Marruecos (1948)
GAME	Guia Archeologica de Marruecos Espagnole (1953)
VRTC	Via Romana de Tanger a Carthago (1902)

1.	Agharne Iroumine		31.	Lalla Djellalia	A. 60
2.	Agourai	A68	32.	Mechra Sfa	
3.	Ain Chkour		33.	Mechra Sidi Jabeur	
4.	Ain El Hamman		34.	Melilla	A. 54
5.	Ain Reggada		35.	Mogador	
6.	Alcala	A.121	36.	Moulay Abdullah	
7.	Alcazarquivir	A. 46	37.	Moulay Yacoub	A. 3
8.	Alcazarseguer	A. 20	38.	Quezzane	
9.	Anjera		39.	Punta Pescadores	A. 49
10.	Anoceur		40.	Ras Achakkar	A. 16
11.	Aoudour	A. 14	41.	Ras Bou Kifrane	
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13.	Bou Fekrane		43.	Sale	
14.	Bou Hellou		44.	Sidi Abdesalam des Behar	A.136
15.	Cabo Negro	A. 85	45.	Sidi Aissa	A. 29
16.	Castillejos	A. 80	46.	Sidi Ali ben Ahmed	A. 62
17.	Cazaza		47.	Sidi Ali bou Djenoun	A. 7
18.	Chellah-Rabat	A. 55	48.	Sidi Kacem	
19.	Dar Chaoui		49.	Soueir	AA. 22
20.	Dchar Djedid	A. 74	50.	Souk el Djemaa el Ahouafat	
21.	El Benian				A. 6
22.	El Gour		51.	Tamuda	A. 61
23.	El Jareb		52.	Tangier	A. 65
24.	Emsa		53.	Tangier (district)	
25.	Ferme Biarnay (Khemichet)	A. 6	54.	Tchemmich	A. 34
26.	Ferme Priou (Sidi Slimane)	A. 28	55.	Tiferouine	
27.	Fez		56.	Tocolosida	A. 66
28.	Guercif	A. 5 A. 41	57.	Ulpium	
29.	Jandak Hamar		58.	Limes	
30.	Ksar Pharaoun	A. 72	59.	Other sites.	

B.1. Agharne Iroumine (Tilmirat)

General Freydenberg reported some ruins at Agharne Iroumine; which seem at first sight to be those of a Roman camp of which three sides remain. (1) It appears to occupy a steep sided spur 14 kilometres N.W. of Tilmirat which is 80 kilometres S.E. of Fez. (2) Further details are needed.

1. L. Chatelain BAC 1926 p. clxxiv.
2. D.J. Smith DUES p 132-3.

B.2. Agourai

On the strength of a report by Colonel Hannezo of the presence there of a Roman military town, (1), it has been fashionable to regard Agourai (31 kilometres South of Meknes) as a post on the 'limes'. D.J. Smith (2) was unable to find any traces of Roman occupation. R. Thouvenot revealed in 1956 that he had traced a section of the 'limes' in the form of a ditch in 1939 (3). The situation is thus restored to the status quo. Since the limes runs east of Agourai, there should be somewhere around the town an auxiliary fort, for Agourai is on one of the roads that leads from the plain through the foothills of the Atlas. When found, the fort should be identified as Trisidis (see A.68).

1. L. Chatelain BAC 1912 p xvi.
2. DUES p 127-8
3. "La route Romaine de Sala à l 'Oued Beth" CRAI 1956 p 120ff.

B.3. Ain Chkour

About four kilometres north of Volubilis at the foot of the Djebel Zerhoun is the spring called Ain Chkour, from which a stream crosses the road and runs westwards towards the Oued Kroumane and the Oued Rdom. South of this stream and on the west side of the road, remains of buildings and shards of pottery are scattered over about twenty-five acres of land (1). Six inscriptions have been found (2) one of which records the building of a praetorium. Among the objects found, there are sculptured stones and a mill stone (1). There is prima facie evidence for an infantry fort and a considerable civil settlement engaged perhaps in quarrying stones from the slopes above the spring (3). The name is unknown.

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1. D.J. Smith DUES pp. 116-117.
 2. AE 1939 no 166 NYMPHIS ET / GENIO / LOCORUM / VALLIUS
MAXIM / IANUS PROC / AUG
ILM 43 GENIO LOCI / FL NEON PRAEF / coh I ASTUR ET CALL /
PRAETORI PER Ma / NUS COMMIL A SO/LO COMPOSUIT ET FECIT.
BAC 1942 P. 202 = AE 1942/3 No. 25 = AE 1953 No. 41.
ILM 44
BAC 1954 p.61 (2 inscriptions).
 3. R. Etienne BAC 1950 pp 23-32.

B.4. Ain El Hamman

Roget (1) states that a Roman bath house has been excavated at Ain el Hamman, which is on the main road from Tangier to Arzila, about 20 kilometres from Tangier on the west side of the road.

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1. PSAM 4 p. 63-64 quoting Péritié 'Recherches Archéologiques au Maroc 1912) in Archives Marocaines xviii.

B.5. Ain Reggada

A fragment of a Christian altar was found in 1948 by the Abbé Grassely at Ain Reggada (1), between Berkane and Martimprey in the North east of Morocco between the Oued Moulouya and the Oued Kiss. The ancient fountain at this town appeared to L. Chatelain (2) to be Roman work, but it has since disappeared or become unrecognisable. He considered it a centre of colonisation.

1. R. Thouvenot "Rapport ... 1948" BAC 1948-50 pp. 634-643
2. LMR. p. 136.

B.6. Alcala

Roget (1) says that ruins are clearly visible at Alcala which is on the Mediterranean coast opposite Penon de Velez de la Gomera. I take this site to be Promontory of the Antonine Itinerary (see A.121).

1. PSAM 4 p.62 quoting Blasquez VRTC p.27.

B.7. Alcazarquivir

No excavation has been carried out in this town, but it is clear that large numbers of Roman stones were used in its construction (1) including a tombstone (2), and a Greek inscription which is incorporated in the minaret of the mosque (1). In addition a bronze statue of a bacchante was reported in 1920 (3). The name of the Roman site in the vicinity of this town is Oppidum Novum (see A.46) (by deduction from the Antonine Itinerary), but where it was, is not known.

At Cunna, $4\frac{1}{2}$ kilometres south of Alcazarquivir, there are traces of Roman occupation in the form of pavements and pots, including amphorae (4). This may be the old town in this area. Other remains have been found at Snadla, 5 kilometres west of Alcazarquivir (5).

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1. L. Chatelain PSAM 3 p. 34
 2. ILM 40 VALERIUS AB/DAS IMAGINIF/ ALAE HAMIOR/ CALCIDENUS/
ANN XXXV
 3. Raymonde Roget PSAM 4 p.56.
 4. Moran and Gallent VPRNM p. 17
 5. Moran and Gallent VPRNM p. 18

B.8. Alcazarseguer

The village of Alcazarseguer stands on the Straits of Gibraltar at the mouth of the valley which runs south through Anjera (see B 9) to the Rio Martin. Twenty two bronze coins of Arcadius, Gratian and Theodosius (1) indicate a late settlement of importance; but the site is sufficiently important as a natural gateway from Anjera for it to have had a settlement even before the Roman period, though no traces have been found. It has been suggested as the site of Exilissa (1). (See A.20).

-
1. P.Q. Atauri & C.G. Bernal MJSM 7 pp. 25-26.

B.9. Anjera

The name Anjera is given to the valley which joins the Rio Martin to the Straits of Gibraltar, but it is commonly used to denote the central market place of the valley. In addition to the inscription of Tacneidir (1) four Libyan inscriptions have been found in this area and are now at the museum in Tetouan (2). No remains of buildings have been recorded.

-
1. AE 1934 No.122.
 2. Tarradell GAME p.17.

B.10. Anoceur

Sixty kilometres south of Fes and four kilometres east of the road to Boulemane, near the ancient Trik el Maghzen which runs from Fez through the Atlas to the desert, are the remains of a Roman settlement. Since its excavation in 1921 by Colonel de Ganay (1) local stone robbers have removed all evidence of walls (2). The plan which was to be made (1) has never been published. It appears that there was a building 30 metres square consisting of rooms ranged round a central courtyard (2), of the type known as 'fortified farm'. Five inscriptions have been found (3) which imply that there was an earlier settlement both military and civil, with a considerable Latin speaking community.

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1. L. Chatelain BAC 1920 pp clxxiii - clxxiv
BAC 1921 pp clxix - clxxiii.
 2. D.J. Smith DUES pp 133 - 135.
 3. L. Chatelain 'Inscriptions et fragments...d'Anoceur'.
Hesperis I (1921) pp 78-79
 - (a) D.M.S./FL.T.FIL GERMA/ NILLA. VOLUB./ FLAMINIC.
PROV/VIX.AN.LXXII.MENS VI.
 - (b) D.M.S./ C APRONIUS PATER / NUS BRACARUS VIXIT /
ANNIS XVIII MENS I / BUS X.DIEBUS XXVIII / HIC SITUS
EST MESO / LEUM EI FECIT PIRAMUS / TU QUI LEGES
PETO UT DICAS SIT TIBI TERRA LEVIS / QUONIAM FUIT
VITA BREVIS
 - (c) COSUOBNUS. / PRISCUS. TATIRI. F. / HAEDUUS. EQ.
AL. TAUR. / ANN XLV. H.S.E.S.T.T.L. / AER. XXIV
H.E.T. X F.C.
 - (d) D.M. / L. IULI. / VICTORIS
 - (e) DOMINU-/-

B.11. Aoudour

Captain Tisseyre found a bronze coin of Antoninus Pius in the course of digging (1) (presumably the foundations of the military post) on the south west spur of the Djebel Aoudour, which is 18 kilometres north of Fes-el-Bali on the east side of the Oued Aoudour. The post appears to be in the centre of extensive Roman remains: 600 metres north of the post are traces of a fort (1); 800 metres north west is a low hill surrounded by a thick rampart (2); not far away at the spring was found a similar solid structure, and 40 metres from the spring which is 300 metres east of the village of Bou Kelaa are some more ruins. (2).

This area is too far from the province to be considered suitable for agriculture on a large scale. The remains may be those of fortified farm houses, or they might be practice camps, although there was no permanent garrison. The presence of a second century coin makes it unlikely that they should be considered the remains of a fourth century fort, although the valley of the Aoudour is the southern end of a valley route from the Rio Martin.

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1. L. Chatelain BAC 1926 pp. clxxiii - clxxiv.
 2. L. Chatelain BAC 1927 pp. 193-196.

B.12. Arbaoua

Apart from the missing milestone (1), Arbaoua is remarkable for a fishpond (2) with a tented roof which was discovered in the grounds of the Sarsar Hotel together with Roman tiles (3).

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1. L. Chatelain BAC 1921 p. ccxviii.
 2. L. Chatelain BAC 1925 pp. cxiv - cxv.
 3. L. Chatelain LMR p. 120.

B.13. Bou Fekrane

On a farm east of Bou Fekrane (1) which lies 19 kilometres S.E. of Meknes, M. Chatelain was shown the traces of a rectangular enclosure, a spiral column and part of a statue (2). There is only fragmentary evidence, therefore, for assuming this to be a villa..

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1. D.J. Smith DUES pp. 128-9.
 2. LMR p. 20, p. 134.

B.14. Bou Hellou

Forty seven kilometres, west of Taza the road to Fez crosses the Oued Bou Hellou. In making the new bridge (1918), the engineers uncovered dressed stones of the Roman period together with some walls further east (1) and a fragmentary inscription (2). There is no evidence for a military occupation and D.J. Smith points out (3) that the architectural fragments might be those of a temple or Mausoleum.

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1. L. Chatelain BAC 1919 pp. clxxiv - clxxx.
 2. /- DVS/.
 3. DUES pp. 131-132.

b.15. Cabo Negro

Raymonde Roget (1) records the existence of ruins on this headland 30 kilometres south of Ceuta, which I take to be Cape Barbitus (see A.85) or Iagath (A.108).

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1. PSAM 4 p. 12, quoting Blasquez 'VRTC' p. 37.

B.16. Castillejos

In Castillejos, (5 kilometres south of Ceuta), between the road and the railway is a building 25 metres square with several semi-circular arches (1). This I take to be associated with Aquila minor (see A.80) or Cape Phoebus (see A.119).

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1. Morán and Gallent VPRNM p. 20.

B.17. Cazaza

Some Roman remains have been reported from Cazaza, 14 kilometres west of Melilla on the other side of Cabo Tres Forcas, but none of the objects was worth preserving at Tetouan (1).

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1. P.Q. Atauri & C.G. Bernal MJSM 7. pp. 24-25.

B.18. Chellah - Rabat

The excavations of 1930 which resulted in the discovery of the base of the statue to M. Sulpicius Felix (1), are recorded by Chatelain (2). They opened the Forum, Arc de Triomphe, Capitolium and Curia Ulpiana. Recent work in the same area has uncovered some more buildings around the Forum and removed some of the later constructions (3). It seems clear that the centre of the city lay at the foot of the escarpment about 4 kilometres from the mouth of the Oued Bou Regreg. The cemetery for the town appears to have been under the Residency (4) in the early stages, for later tombs have been found on the slope of the hill by the railway (5). In addition to the inscription giving the name of the city (1), many other inscriptions of a domestic nature have been found. The coins found number 68 and cover the period from the Republic to Honorius (6). The gaps in the coin list are due to the smallness of the excavations and also to the fact that the excavations were for Islamic rather than Roman remains. The extent of the city of Sala (see A.55) is unlikely to be discovered for large portions of it are covered by Islamic remains which may not be disturbed. M. Maurice Euzennat has lately reported the existence of a large camp near by (7). At Temara 10 kilometres south of Rabat, a small bronze handle in the form of a boar's snout was found in 1935 (2).

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1. St. Gsell and J. Carcopin^o 'La Base de M. Sulpicius Felix et le décret des décurions de Sala' Mélanges de l'Ecole de Rome, 1931 pp. 1-39.
L. Chatelain, BAC 1931 pp. 171-175; 225-228.
 2. L. Chatelain LMR pp. 81-101.
 3. Visit 2 August 1947 (JEHS).
 4. L. Chatelain BSA 1918 pp. 156-159.
 5. R. Thouvenot and A. Delphy "Sépultures Romaines à Rabat", Hespéris XL 1953, pp. 540-546.
R. Thouvenot "Sarcophage Chrétien découverte à Rabat" CRAI 1949 pp. 237-242.
 6. R. Thouvenot "Note sur les monnaies antiques trouvées à Chellah" Hespéris XIX 1934 p. 126-7.
 7. CRAI 1956 p. 310.

B.19. Dar Chaoui

In 1941 Sr. Sampedro reported Roman remains at this village on the Tetouan-Larache road (34 kilometres from Tetouan). Subsequent examination, but without excavation, disclosed the existence of buildings and a fair amount of broken pottery together with two coins, of Vespasian and Trajan (1). It is highly likely that Dar Chaoui retained its importance in the later Roman Empire.

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1. T. Garcia Figueras "La Ocupacion Romana del N.O. de Marruecos" Actas y Memorias XXII (1947) pp. 34-36.

B.20. Dchar Djedid (Ain Bellita, El Had de las Gharbia).

Thirty six kilometres south of Tangier on the south bank of the Oued Kharroub, there is an elliptical plateau, 1250 by 550 metres, surrounded by a wall 4,500 metres long, easily seen on the south and west sides, but more difficult on the north and east (1). The area enclosed is about 150 acres. The excavated remains - a house with atrium and peristyle - belong to the late Roman period, but there is evidence of lower levels dating back to the pre-Roman times (2). This seems to confirm the inference, from the study of the road system, that Dchar Djedid cannot be the itinerary site of Mercuri (i templum) which was a third century foundation.

Tissot thought there was a fort on the east side and he also found cisterns which Chatelain takes to be granaries (1). Drummond Hay, in 1842, reported a theatre (1). Many small objects have been found and are now in the museum at Tetouan (3). They include two inscriptions (4). The coins found begin with Juba and end with Honorius (3). There can be little doubt that this site was a big town and not the small road station or military post suggested by Chatelain (5). Its name, I take to be, Colonia Augusta Iulia Zilis Constantia (see A.74).

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1. L. Chatelain LMR pp. 44-46.
 2. M. Tarradell GAME pp. 33-34.
 3. Visit to Tetouan museum 31 July 1957 (JEHS).
 4. (As above 3). D.M.S./M.LVCIN/VS VIX AN V / M IIII D XVI / #SESTTL.
ILM 26 ---IID/ caes M ANTONI GOR/DIANI PII FELICIS /
AUG P P DEVOTA ---/--NUMINI Maiestatiq/EIVS
 5. PSAM 3 p. 30.

B.21. El Benian

At El Benian, between Tangier and Tetouan, Besnier is reported (1) to have discovered some ruins. Moran and Gallent were unable to find them (2); they did, however, examine a rectangular enclosure 105 metres by 93 at Sayufa (3), the walls of which are in places 6 metres high. Although the pottery on the surface was of the fifteenth century, they did not think that the associated cemetery was Islamic. The cemetery, if not the ruins, might be of the Roman period.

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1. Raymonde Roget PSAM 4 p. 79.
 2. VPRNM pp. 24-25.
 3. Twenty kilometres south east of Tangier.

B.22. El Gour

In addition to the funerary monument described by D.J. Smith (1) there are six acres of fallen stone (2) part of which was excavated before 1924 (3). No reports of these excavations have been published. Without detailed excavation of the monument, it is impossible to assign it to any period (1) though it is certainly pre-Islamic. The six acres of fallen stone may have come from the monument and the two walls described by Smith (1) seem to have been made from the debris. These walls may, therefore, be Islamic.

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1. DUES pp. 129-131.
 2. L. Chatelain BAC 1921 p. ccxvii.
 3. L. Chatelain BAC 1924 p. cli.

B.23. El Jareb = Zeitoun Oulad ben Hellal

Eight kilometres south east of Arzila are the ruins of El Jareb (1), which appear to be the same as those of Zeitoun Oulad ben Hellal discovered by Tissot and described as a rectangular enclosure about 750 metres in circumference (2). Chatelain thinks it was a fortified farm house (2), but the need for fortification in this area is not apparent.

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1. Moran and Gallent VPRNM pp. 15-16.
 2. L. Chatelain LMR p. 49.

B.24. Emsa

In the Emsa valley, which is 12 kilometres south of Rio Martin, 2 kilometres from the coast is a small hill with a flat top on which stood a Carthaginian trading post. The pottery found was of the Campanian type and there was also an Iron Age brooch. It was abandoned under the Mauritanian Kings (1).

-
1. M. Tarradell GAME p. 16.

B.25. Ferme Biarnay (Khemichet)

Roget (1) records the finding of Roman remains by a colonist on his farm about four or five kilometres west of Khemichet on the bank of the Oued Ouergha. This is presumably the farm which Chatelain (2) refers to as Ferme Biarnay, describing it as occupying a low hill covered with shards. I take it to be the site of Colonia Iulia Babba Campestris (see A.6).

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1. PSAM 4 p. 46 note 1.
 2. LMR p.117.

B.26 Ferme Priou (Sidi Slimane)

The farm of M. Priou occupies a peninsula formed by the bend of the Oued Beth $1\frac{1}{2}$ kilometres south of Sidi Slimane. Aerial photographs show two main streets and many side roads, a base big enough for an equestrian statue and various buildings (1). Chatelain does not believe that this is a town (2). Gilda for him, is more probably Ferme Biarnay (B.25) near Khemichet (3) despite the discovery at Ferme Priou of a tile (4) and two inscriptions (5) and the finding, in the course of constructing the railway, of the foot of a large bronze horse (6). I, however, take it to be the town of Gilda (see A.28).

-
1. L. Chatelain LMR p. 124.
 2. LMR p. 125.
 3. LMR p. 117.
 4. L. Chatelain LMR p. 116 FACTA GILDae
 5. L. Chatelain BAC 1927 pp. 82-84
 - (a) MEMORIAE/Q ATILI.Q.F. STEL/ PESCENNI.SALLVS/TIANI.
DOMO.FE/RENTIS.FILI/ DVLCISSIMI PAVL/LINIANVS PRAEF
EQ ET MAXIMILLA PARENTES.
 - (b) -----M----- /--ENTI.NECT---
 6. L. Chatelain BAC 1921 p. ccxvi.

B.27 Fez

Two Roman remains have turned up in Fez; one, a marble statue, may be Roman since it is so mediocre (1), the other, a Roman lamp, is fully described by Thouvenot (2). There is no evidence for Roman structures under Fez, but it is difficult to look below the narrow streets and small shops of the markets. No traces were found in the construction of the modern town.

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1. L. Chatelain BAC 1921 p. ccxvii.
 2. PSAM 7 pp. 184-189.

B.28. Guercif

A prehistoric station and an ancient camp were seen by Colonel Delpy in the territory of Guercif (1). Their location and nature have not been recorded. This, I take to be the site of Molochath (see A.41) and Argenti (A.5).

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1. L. Chatelain BAC 1921 p. cli.

B.29. Jandak Hamar

Nineteen kilometres north by east of Alcazarquivir and twenty eight kilometres east by south of Larache, a Spanish guard-post was partly built with Roman stones, and nearby a millstone was found (1). From such meagre evidence it is difficult to deduce the nature of the site; it may be only a farm, or it might be a large village.

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1. T. Garcia Figueras 'La Ocupacion Romana del N.O. de Marruecos' Actas y Memorias XXII (1947) p.26.

B.30. Ksar Pharaoun

So much has been written about the Roman remains at Ksar Pharaoun (1) that all that needs to be said is that it was the large and flourishing city called Volubilis. (see A.72).

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1. Sixty-three separate articles have been published to date.

B.31. Lallia Djellalia

Tissot first reported the existence of a Roman camp in the wood on the west side of the Arzila-Larache road just north of its junction with the Tetouan-Larache road. La Martinière excavated it, but his report was not published and Chatelain first described it (1) as a square enclosure of 975 metres circumference with some interior buildings. Tarradell states that it was a road station with a small military garrison and was occupied from the Second to the Fourth Centuries A.D. (2). This agrees with the conclusion drawn from the study of the roads (Section 17), that Tabernae was established during the Second Century, (see A.60).

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1. LMR pp. 49-52.
 2. M. Tarradell GAME p. 34.

B.32. Mechra Sfa

East of the Petit-Jean-Meknes road as it emerges from Bab Tisra, lies the site of a rustic villa briefly mentioned by Chatelain (1) and described and planned by D.J. Smith (2). It does not appear from the visible remains that the production of oil was extensive.

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1. BAC 1926 pp. clxxii.
LMR p. 134.
PSAM 3 p. 38.
 2. DUES pp. 119-122.

B.33. Mechra Sidi Jabeur (Rhirha)

Some five kilometres north of Sidi Slimane on the east bank of the Oued Beth and surrounded by it on the north, west and south sides is an elliptical mound of about 1,500 metres in circumference. A full account of the remains, but no plan, is given by Chatelain (1); there was an enclosing wall on the east side; inside it was a bath house, two atriums (presumably of houses) other constructions; a road led eastwards from the gate. Four inscriptions have been found (2) and two mosaics (3). It is too big (20 acres) for a fort or fortified farm and it might be a small town (4).

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1. BAC 1921 p. lxii ff.
 2. BAC 1919 clxxxiff. and 'Inscriptions et Fragments....
d'Mechra Sidi Jabeur' Hespéris I (1921) pp. 79-82.
 - (a) BIDBAL / TANCINI / L.H.S.
 - (b) C.IULIUS / AQUILA / ARCONI / ALBI F.H.S.
 - (c) -A-
 - (d) PISANUS / ---- S.F.
 3. BAC 1919 clxxxi ff.
BAC 1921 Lxii ff.
 4. D.J. Smith DUES p. 97 and note.

B.34. Melilla

Traces of an ancient harbour are, according to Blasquez (1), visible at Melilla, but this is apparently all that can be seen of the Third Century colony of Russader (see A.54), except for shards of Campanian ware (2) (as at Emsa B.24 and Sidi Abdesalam des Behar B.44) found during the excavation of a punic cemetery. It is, however, fully reported by R. Fernandez de Castro in "Melilla Prehispanica" (Madrid 1945).

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1. Raymonde Roget PSAM 4 p. 69 quoting VRTC p. 27.
 2. M. Tarradell GAME p. 14-15.

B.35. Mogador

The discovery of Juba's Purple Island was reported in 1954 (1) and a full account published the following year (2). On the islands which lie across the mouth of the harbour of Mogador, were found the remains of a Roman house, exposed by erosion, which is now sliding into the sea, two denarii of Juba, three potter's marks from Arezzo, many 1st Century amphorae, other coins ranging from Commodus to Julian, a Christian monogram on a lead weight and a graffiti on Samian. The islands appear to have been originally one large island which the action of the sea has split into two. There may have been other smaller islands (2). The excavators also experimented with certain shellfish which produced an unfading deep purple dye. It is not certain whether these shellfish are the traditional murex or not. Some doubt the existence of murex in sufficient quantities to produce a true purple and suggest that a false purple was produced with a vegetable basis (3).

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1. R. Thouvenot "Recherches Archéologiques à Mogador" *Hespéris* XLI (1954) pp.463 ff.
 2. J. Desjaques and P. Koeberlé "Mogador et Les Islès Purpuraires" *Hespéris* XLII (1955) pp.193-202.
 3. Drs. David and Herber "La Pourpre de Gétulie" *Hespéris* XXV (1938) pp 97-99.

B.36. Moulay Abdullah (Mazagan)

Some ancient tombs like those of Taza and Tangier were found at Moulay Abdullah near the ruins of the Almohade fortress of Tit, which is 12 kilometres South West of Mazagan. Leo the African and Marmol recorded Tit among the Libyphoenician towns (1). This is evidence for assuming a Carthaginian occupation which has been confirmed by the investigations of A. Luquet (2).

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1. Raymonde Roget PSAM 4 p.69 quoting *Hespéris* (1927) ii p.122-3
 2. A. Luquet "Prospection Punique de la côte Atlantique" *Hespéris* XLIII 1956 pp.117-132.

B.37. Moulay Yacoub

Raymonde Roget (1) records some Roman remains at Moulay Yacoub on the road from Meknes to Sidi Slimane. Its position corresponds to Aquae Dacicae (see A.3).

1. PSAM 4 p.19.

B. 38. Quezzane

Some shards and coins have been reported from this holy town in the foothills of the Rif mountains (1), but no excavations or, indeed, field-surveys appear to have been carried out.

1. L. Chatelain LMR pp.114-115.

B.39. Punta Pescadores

Raymonde Roget reports that ancient objects found at this headland 110 kilometres from Ceuta and 190 kilometres from Melilla, have been preserved by Sr. Don Cesar Luis de Montalban at Larache (1). I take this to be the site of Acrath (A.2.) and Parietina (A.49).

1. PSAM 4. p.30.

B.40. Ras Achakkar

Tissot reported an aqueduct leading from Mediouna to the sea; this was shown by Michaux-Bellaire to lead to an underground vault which was presumably a cistern (1). Excavations have been undertaken here (2), and although no report has been published it is clear that there was on this site, a factory villa engaged in processing fish for export, and oil for its own use. A frescoed atrium and the owners rooms lie immediately south of the great underground cistern and on the north side is a long room with sleeper walls which might be a granary or a fish-drying room. A bath house has also been uncovered south of the main building. It must have been a profitable villa, for one of the rooms has a marble floor and other rooms and corridors have flagged or tiled floors. No mosaic floors have been found. A scatter of pottery can be found along the dunes for 200 yards (3). This may be Cottae (see A.15).

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1. Archives Marocaines XLIII (1912) P.23 - 24.
 2. On the edge of the beach, one kilometre south of the Grottoes of Hercules which are three kilometres south of Cap Spartel.
 3. Visited 1st August, 1957 (JEHS).

B.41. Ras Bou Kifrane

A Libyan inscription now in the Museum at Rabat (1) was found by M. Escolier, a colonist farmer, (on his farm?) at Ras bou Kifrane which is 13 kilometres south by West of Tiflet.

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1. L. Chatelain LMR p.19 and note.

B.42. Rhirha des Rhouna

Rhirha according to Roget (1) means 'incomplete walls' or 'ruins'. When Chatelain visited Rhirha in 1924, (2) he remarked on its resemblance to Mechra Sidi Jabeur (see B.33), but he did not say whether the visible remains resembled a villa or town or fort. The site is on the left bank of the Oued Loukkos and enclosed on three sides by that river; it used to be in Spanish territory, but it is now in the southern zone about five kilometres west of the road from Ouezzane to Tetouan and twenty-six kilometres east of Alcazarquivir. This might be the Notitia fort of Lucos (see A.35).

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1. PSAM 4 p.25
 2. BAC 1926 p.cxvi

B.43. Salé

For many years Salé was thought to be Sala, but the discovery of Roman remains below Chellah transferred interest from the north to the south bank of the Bou Regret. Recently, however, evidence has come to light of an agricultural community on the north bank (1).

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1. R. Thouvenot 'Eléments de pressoir à huile trouvés a Salé' PSAM 10 pp.227-230

B.44. Sidi Abdesalam Des Behar

The ruins of a Carthaginian trading post have been excavated on a small hill lying just west of the beach and 2 kilometres south of Rio Martin. It appears to have been occupied from the Fourth Century B.C. to the period of the Mauritanian kings but abandoned before the establishment of the province. (1). I take this to be the forerunner of the settlement or landing place of Tenia Longa (see A.136)

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1. M. Tarradell GAME p.15

B.45. Sidi Aissa (Souk el Arba du Rharb)

About one kilometre north of Souk el Arba, the railway cuts through the hill on which stands the marabout of Sidi Aissa. In making the cutting some Roman walls were discovered (1), but excavation did not properly begin until 1953 (2) and 1954 (3). On the east side of the railway, a segment of a square walled compound with interior towers has been exposed. Traces of occupation extend over a large area to the east of the compound (4). Finds include three potters' marks, some coins (unnamed), a lamp, pottery, an inscribed tile and a fragment of a diploma (3). M. Maurice Euzennat believes it to be a large military camp (5). Sidi Aissa is the right distance, 16 kilometres, from Banasa for the site of Ptolemy's Gontiana. (see A.29)

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1. L. Chatelain LMR p.114
 2. R. Thouvenot 'Rapport sur l'activite ... en 1953'
BAC 1954 p.55
 3. R. Thouvenot 'Rapport sur l'activite ... en 1954'
BAC 1954 p.63.

Tile EX FIGUL CAES N

Dipl. T DIMISS HONEST/ ----- OMIN SUBSCRIPTA/ -----
QUI EOR NON HABER/ ----- UXOR QUAS TUNC/
---- CIVIT IS DATA AUT/ ---- DUXISS DUMTAXAT/
---- D.V.K.IAN/ ----- IUNIO SEVERO COS/
---- R CUI PRAEST/ ----- RUSTICUS SIMIT/
---- EVERI F LUSIT/ --- OGNIT EX TABUL AER/
---- MAE IN MURO POST/ ----- D MINERVAM.

Rev. ET III GALL ET IV ---- IVROR/ ---- ET II----/
---MAURET TINGIT SUB-/--XXV PLURIBE STIP --/
----S QUORUM NOM SUB--/ ---UI EORUM NON HAB -/
--- QUAS TUNC-----/--UT CUM IS QUAS ---/
--- INGULIS ---//

4. Visited 5 August 1957 (JEHS).
5. CRAI. 1956 p.310

B.46 Sidi Ali Ben Ahmed

No full account of the excavations of Thamusia (see A.62) has yet been published but a large amount of work has been done. La Martinière, in 1912, was put off by the weathered appearance of the stones, but work recommenced in 1934 (1) and has continued sporadically since then. There seems to be three parts to the site (2), which is sixteen kilometres north east of Kenitra (anc. Port Lyautey). On the west side, that is, lower down the river, is a basin which may have been the harbour. Within the encircling quays it is difficult to find any trace of Roman buildings (3). To the south east of the harbour is a square enclosure, with a deep basement building in the centre, whose floor level is some $4\frac{1}{2}$ feet below the occupation level of the rest of the site, and may be connected with the treasury of the unit in garrison. The town wall, protected by bastions, runs from the south west corner of the fort, and encloses an area about fifty yards wide to the south east of the fort before enclosing the rest of the town, which lies north east of the fort and harbour. Inside the town a street with houses on each side has been cleared and near the river bank there appears to be the remains of a Capitol or other large temple, as well as a complicated bath house of two periods with 7 hypocausts and 5 baths of various sizes and shapes (3).

The site has produced 5 inscriptions (4) one fragmentary diploma and coins ranging from Augustus to Gordian III (5). Other minor objects include a phalera and a Christian lamp.

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1. L.Chatelain LMR p.76-78
 2. Aerial photograph
 3. Visited 4 August 1957 (JEHS)
 4. L.Chatelain BAC 1934-5 p.175-177
 - a. M SEN---/VICTO---/ASTVRV---/FAVENT---/STIP XVI HS-/LATIVRVS
 - b. L.NIGIDIVS/ALBANVS/ VETERANVS/ H.S. EST.EX TES/TAMENTO H/ VAL.CORSICVS/ FAC.CVRAVIT
 - c. ---VMQVE VIATOR/ PERLEGES.ET.CASUS.QVE/RIS.EX.HODIA NCS TRI/ VA.DACA.ERAM/VIII.ETATIBVS---/ CO NEP ---.
 - d. D.MS/AVR.ARRVNTIV/S EX DEC VETERA/NVS VIXIT AN/S LS T T L
 - e. ---LONI/--EX DECV/RIONE ALAE/ GEMELLIANAE/ DVMVIRALI/ COLONIAE BABBENSIS/
 5. Visit to Rabat Museum 2 August 1957 (JEHS).

B.47 Sidi Ali Bou Djenoun.

The Marabout of Sidi Ali Bou Djenoun together with two more marabouts occupies a low hill of the south bank of the Oued Sebou about 15 kilometres South West of Souk-el-Arba du Rharb. A full account of the discoveries was published by R.Thouvenot in 1941, (1) and two whole volumes of PSAM (2) have been devoted to later excavations. Work is still continuing on the southern portion of the site, and a deep trench has been cut in an effort to trace lower levels. The name of the site, Colonia Valentia Banasa, (see A.7), is confirmed by inscriptions (3). Banasa is chiefly famous for the numbers of diploma which have been found. Chatelain considered that there was a garrison of troops at Banasa during the early part of the Third Century A.D. (4) but Thouvenot thought that Banasitans were more likely to be appealing for troops (5). There is no certain record of military installations. The whole of the area appears to be civilian. (6)

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1. "Une Colonie Romaine; Valentia Banasa;" Publications de l'Institut des Hautes Etudes Marocaines XXXVI.
 2. PSAM 9 (1950) and PSAM 11 (1955)
 3. CRAI 1940 p.131. (Table of patronage of Sex. Sentius Caecilianus).
BAC. juin 1934 p.X. (two imperial statue bases to Claudius & Aurelianus)
CIL.VIII 9992 & 21819 (to Caracalla).
 4. LMR p 69-76
 5. "Tablette de Bronze découverte à Banasa" PSAM 1.pp 3-10
 6. Visit 4 August 1957 (JEHS).

B.48 Sidi Kacem

Two kilometres from Petit-Jean towards Sidi Kacem there is, on a natural eminence between the road and the Oued Rdom, a rectangular space of four acres which might be an infantry fort (1). No account of the excavations was published, but Chatelain considers it too small for a town (2). Two inscriptions (3) found in the surrounding area are thought to refer to this site.

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1. D.J. Smith DUES p.115-116.
 2. LMR p.117.
 3. ILM 41 -----AUG/ -----/ ---ALEXAND/RI COHORS IIII/
GALLORUM DEVOTA/ NUMINI MAIESTATIq eor C.IV/LIO
MAXIMINO V.E./ PRAESIDE PROLEGATO/ VALERIO SALVIANO/
PRAEFECTO POSUIT.
ILM 42 D S M / GER.ZQ.EQ/CHOR.IIII.GAL/ TUR. OPTATA/
STIP XVII.AN/XXXX.EX.PRO/LUSIT FAUSTIN/ LAETI
EIUS/HER f.c.

B.49 Soueir.

Twenty kilometres west of Arbaoua and ten kilometres from the sea coast, on the east bank of the Oued Soueir, is a rectangular enclosure about 100 metres by 80 (1). The name of the spring nearby, Ain Smit, is said to be derived from a berber word for cold (1). At Kerma ouled Kadi, which is three kilometres west S.W. of the camp, the left hand of a larger than life size statue was dug up (1). The size of this fort (barely 2 acres) suggests that it was garrisoned by a detachment rather than by a full unit. Its name is probably Frigidis, (see A.22) thought there is no epigraphic evidence to confirm this deduction from the Antonine Itinerary.

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1. L.Chatelain LMR pp.67-69

B. 50 Souk El Djema El Ahouafat

The presence of tiles and shards was noted in 1920 and in 1924 the foot of a monumental bronze horse was discovered in the course of building the railway. (1). The remains appear to cover the area between the railway and the river bank, approximately 14 kilometres south-east of Mechra bel Ksiri (2). The area covered is big enough for a small town and the monumental statue would indicate a town of importance. It might be associated with the site of Colonia Julia Babba Capestris (see A 6)

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1. L.Chatelain BAC 1926 p.cxv.
 2. L.Chatelain LMR pp.122-3.

B.51 Tamuda

The spur which runs northwards towards the Rio Martin on the west side of the road from Tetouan to Chauen is one of the most important archaeological sites in Morocco. Excavations have been proceeding there for nearly twenty years (1) and it is possible to build a sequence for the development of the town. Excavations in July-August 1957 were uncovering a pre-Roman wall running under the defences of the early Roman camp. During the later Roman Empire, bastions were added to the camp, and the present jumbled hotch-potch of buildings inside the camp, suggests an occupation lasting beyond the Vandal conquest. A praetorium can be distinguished inside the camp facing the hills to the South. There is evidence of at least two periods at the west of Tangier gate. South of the camp the remains of a market place and houses of good and bad construction are still visible. A scatter of pottery runs up the spur for at least another two hundred yards south of the minor road which crosses the site (2). Although there is no epigraphic proof, it is certain that this is Tamuda (see A 61)

1. MJSM. Nos. 2, 5-10
2. Visit 31 July 1957 (JEHS)

B.52 Tangier

No monograph on the Roman remains beneath the modern city of Tangier has yet been published. That the city lies beneath it is indisputable. (Over 50 inscriptions (1) have been found mostly funerary, pagan and christian, but there is also a 'Iivir Colon. Tingitan' on one stone, and a cursus honorum of a procurator. The ancient city appears to lie 8 metres below the present level (2), and to have been built on the two hills west of the bay. Two cemeteries have been identified outside the limits of the city. Among the traces discovered is a basilica, a mosaic of Orpheus, and a draped female statue, numerous small finds, and some mediocre objets d'art. (2)

There is no doubt that this is the site of Tingi (see A 65)

1. Chatelain ILM nos.1-25

Chatelain 'Inscriptions latines de Tanger' BAC 1942 p.339

R.Thouvenot 'Communication' BAC 1948-50 pp44-48

R.Thouvenot 'Rapport... en 1948' BAC 1948-50 pp634-643

2. L.Chatelain LMR pp33-43

B.53 Tangier (district)

Roman remains are said to exist (1) at

Ain Dalia Kebira

Beni Saïd de Bu Amar

Beni Ayalat

Daimus

and on a slope below Miramar du Detroit, 5 kilometres west of Tangier, there is a rectangular enclosure strongly resembling a fortified farm-house (2)

1. Moran and Gallent VPRNM p.10

2. Visit July 1951 (JEHS).

B.54 Tchemmich

Four kilometres North West of Larache on the north bank of the Oued Loukkos and on the west side of the Tangier-Larache road, rises a hill some 250 feet high on which are the remains of the Roman colony of Lixus. (see A.34). La Martiniere's excavations of 1890 have been published (1) but little is known of the work of Montalban. Since 1950, however, reports have been published by Tarradell of the excavation of Punic tombs (2) and of a Second Century house with a fine Mosaic pavement. (3)

On the hill itself is a hexagonal enclosure of 1800 metres circumference with cemeteries outside and a Forum and Basilica inside (4). At the foot of the hill alongside the road are some 50 cisterns covering an area 170 metres by 30. The actual harbour whose quays can still be traced, lies to the south east of the hill on the south side of the road, (5). The cisterns, some of them vaulted, are evidence of a flourishing export trade, though whether in oil or fish is uncertain.

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1. La Martinière BAC 1891 p.134-148
 2. M.Tarradell 'Hipogeos de Tipo Punico' Ampurias XIII (1951) p.250ff.
M.Tarradell. 'Dos sepulturas punicas en Lixus' Boletín de la Sociedad Científica Hispano-marroquí de Alcazarquivir II 1950 pp.3-18
 3. M.Tarradell 'Las Excavaciones de Lixus' Ampurias XIII (1951) pp 186-190
 4. L.Chatelain LMR pp52ff.
 5. Visit 2 August 1957 (JEHS)

B.55 Tiferouine

The discovery of ancient walls at Tiferouine was noted in 1926 (1); Chatelain later called them Roman (2) without, as far as is known, examining them himself. Tiferouine is on the Mediterranean coast east of Pointe Abdou which is 30 miles from the Bay of Alhucemas and 48 from Cabo Tres Forcas, (3). In the absence of any details it is difficult to decide what the walls belong to, but they are most likely to belong to a Carthaginian trading station of the type already identified at Ensa (see B.24), and Sidi Abdesalam des Behar (see B.44).

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1. L.Chatelain BAC 1926 cxvi
 2. PSAM 3 pp 38-9
 3. Raymonde Roget PSAM 4. p.65

B.56 Tocolosida

Five kilometres south of Ksar Pharaoun (Volubilis) and a few hundred metres north of Ain Smar, the remains of the fort of Tocolosida (see A.66) stand on the crest of a low hill. Although the site was excavated by Chatelain in 1923 (1), no plan or details were published. The best account so far is that of D.J.Smith. (2). He considers that the regularity of the defences indicate a fort large enough to have accommodated a quingenary cavalry unit. Inscriptions (3) indicate a military occupation.

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1. LMR p 129
 2. DUES pp 122-124.
 3. BAC 1954 p.60ANNIVS.AFRINVS/ABDATIS.IS.ALE.HA/
ANN.XLV.HIC.S.EST/IVLIA.CESSIA.YXOR/VIRO.SVO.VENEMERITO/
ET.NIGER.MONIMVS/VETERANVS.S.IMP/F.C.S.T.T.L.

B.57 Ulpium

Colonel Jean Baradex has reported (1) the existence of a camp on the massif between the Volubilis plateau and the Oued Beth, which he named from an inscription (2) which he found there. It is $4\frac{1}{2}$ kilometres north east of Ain Jemaa on the Meknes-Sidi Slimane road, and stands on an outlying hump of the Djebel Jemaa. From here, it covers the route round the northern end of that mountain, which is over 2,000 feet high. Its existence is due to the need to protect the settlement of Moulay Yacoub, some 12 kilometres north-north-west.

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1. "Deux missions de recherches archéologiques" CRAI 1955 p.292
2. GENIO ULPI/L.FABIUS FLAC/CVS PRAEF / COH.PARTH / -----T
(now AE,1956 no.62).

B.58 Limes

The first authoritative work on the 'limes' was that of Rouland Mareschal in 1922 (1) and it was for thirty years the only source of information. D.J.Smith in 1952 (2) visited and described the ditch and its associated towers and camp. Colonel J. Baradez (3), in the course of his mission, retraced the ditch, correcting Rouland Mareschal's line from new aerial photographs. Since then one of the towers on the coastal sector has been excavated, (4). It was square and appeared to project in front of the wall. The spoil heaps contained quantities of pottery and oyster shells. It was therefore an inhabited watch-tower, and not merely manned temporarily. The report of the excavation has not been published.

M.Thouvenot has recently revealed the existence of a lateral road running from the north bank of the Oued Bou Regreg, towards the post of Agourai, where he says he traced the course of the frontier ditch for one kilometre (5). This has not altered D.J.Smith's conclusion (6) that "A strongly constituted limes between Fez and Sala (Cagnat) is possible, but not proven", but it should greatly encourage the search for other fragments of the 'limes' and its associated roads.

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1. H.Rouland Mareschal "Le Limes de Tingitane au Sud de Sala colonia" Mem.Acad. XIII 1924 P.441-468.
 2. DUES p 106-112
 3. J.Baradez "Deux missions de recherches archéologiques CRAI 1955 pp.288-298
 4. Visited 4 August 1957 (JEHS).
 5. "La Route Romaine de Salé à l'oued Beth" CRAI 1956 p
 6. DUESp.136 ff.

B.59 Other Sites

Twenty nine other sites have been recorded. Sixteen of them, however, were found in the course of building the railway line along the Oued Rdom between Meknes and Petit-Jean, and all trace of these has been lost (1). Twelve others exist on the Volubilis plateau, namely

Bled el Goussia	farm	(2)
Ain Smar		
El Mellali	timber tower	(3)
Koudiat Fedal Oudaia	rectangular enclosure	(3)
Takourart (East)		
Takourart (North)		
Takourart (West)		
Ain Dgharmi		
Ain Mrisig		
Ain Mrisig (West)		
Dar el Agbane		
Camp de l'épèron barré	fortified camp	(4)

In addition, traces of Roman quarries have been found above Fertassa (5).

Roman columns (6) have been found at Azemmour (see A.64) and a bronze coin of Hadrian was found in the construction of the bridge over the Oum er Rbia (7).

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1. Raymonde Roget PSAM 4 pp81-82.
 2. Visited July 1951 (JEHS).
 3. D.J.Smith DUES p 127
 4. J.Baradez 'Deux recherches etc' CRAI 1955 p.292
 5. R.Etienne 'Les carrieres de calcaire dans le région de Volubilis BAC 1950 pp.23-32.
 6. Guide Bleu
 7. L.Chatelain L.M.R. p.30

Map B

This map drawn from the Africa (Air) map of North Africa on a scale of 1:1,000,000 shows the location of all known or reported sites included in Index B. The shaded area represents land over 1000 feet.

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