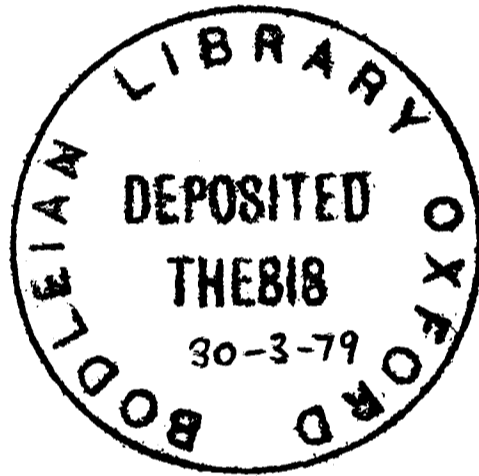


SIXTH-CENTURY FORTIFICATIONS IN BYZANTINE AFRICA
An Archaeological and Historical Study

by

Reginald Denys Pringle



VOLUME ONE

Thesis presented at Oxford University
in the Faculty of Anthropology and Geography
in fulfilment of the requirements
of the Degree of Doctor of Philosophy
Trinity Term 1978 [1978]

PREFACE.

The work for this thesis, which has occupied me for almost five years, was made possible by a State Studentship awarded by the Department of Education and Science, supplemented by additional travel grants from the Craven Committee, the Meyerstein Fund and the Committee for Graduate Studies of the University of Oxford. I am also grateful to the Bursar of Keble College for an interest-free loan, which facilitated my financial arrangements during my second visit to North Africa.

The idea of tackling an early medieval North African topic was first suggested to me by Barry Cunliffe, Vice-Chairman of the British Save Carthage Committee. Without the expert guidance of Peter Brown, however, and the sound advice and criticism of Sheppard Frere, each of whom in turn supervised my work, it is doubtful whether it would even have been brought to fruition. For their helpful advice to me during the early stages, I would also like to thank Martin Harrison, Cyril Mango, Peter Megaw and John Ward-Perkins.

During the course of two visits undertaken to North Africa in 1974 (two weeks) and 1975 (five and a half months), I received help and hospitality from a large number of people. Particular thanks are due to the Antiquities Departments of the Libyan Arab Republic, of Tunisia and of Algeria for granting me permission to visit and photograph the sites under their care; for this and other assistance I am especially grateful to M. Nemri (Libya), A. Beschaouch (Tunisia), S. A. Baghli and Mounir Bouchanaki (Algeria). Those who supplied me during my travels with either practical advice or, equally importantly, food, lodging and/or transport include the following: Habib Ben Hassan (Tunis), Evan P. Byrde (Annaba), Derek and Alice Eaton (Tunis), A. Ennabli (Carthage), E. Fitzsimmons (British Council, Tunis), Robert and Anne Hack (British Council, Algiers), Charles and Olwen Hackett (Misurata), Clive Holes (Algiers), Henry Hurst (British Excavations, Carthage) and Matthew Kahane (Tunis). Without the generous loan of a vehicle (see Pl. XXIIIa) by James and Elizabeth Fentress, it would have been impossible for me to have visited as many sites as I was able to do. A word of thanks should also be included for the Police Force of Algiers, who successfully recovered a stolen suitcase of mine containing one year's accumulated records and notes.

Preface (cont.)

In elucidating points of information or interpretation, considerable assistance has been extended to me by a number of colleagues in Britain and France. Although particular debts of this nature are recorded in the appropriate places in the Notes, I would like to thank especially: Peter Addyman (York), for information on the town and territorium of Sbeitla; Jean Durliat (Toulouse), for discussion of epigraphic texts and the administration of Byzantine Africa; Noël Duval (Paris), for discussion of the Byzantine features at Sbeitla and Haidra; Elizabeth Fentress (Oxford), for advice on the Roman background to the military settlement of southern Numidia; Paul-Albert Février (Aix-en-Provence), for information concerning the excavations at Setif; Roger Guéry (Aix-en-Provence), for information on Byzantine coin hoards from Africa; James Howard-Johnson (Oxford), for assistance in interpreting the sixth-century Byzantine military treatises; Michel Janon (Aix-en-Provence), for providing me with access to the photothèque and other archive material in the Institut d'Archéologie Méditerranéenne, Aix-en-Provence; Jean Lassus (Aix-en-Provence), for information and discussion concerning the fort at Timgad; and Colin Wells (Ottawa), for discussion of the identification and interpretation of Roman and Byzantine military stables. For assistance with the reading and interpretation of the inscriptions from Ain Djelloula and Henchir Sguidan I am also very grateful to Averil and Alan Cameron (London), Michael Crawford (Cambridge), James Diggle (Cambridge), Joyce Reynolds (Cambridge) and John Martin-dale (London).

Finally, on the technical side, my thanks go to Robert Wilkins and Nicholas Pollard, of the Institute of Archaeology's Photographic Department, for printing the photographs and a sizeable proportion of the figures. Michael Rouillard advised on the preparation of the maps. The text was typed by Anne Carruthers, and I am particularly grateful to Shelagh Jameson for ferrying packages of typescript back and forth between Oxford and Malvern.

Oxford, 9.x.1978.

CONTENTS.

VOLUME ONE

Preface	ii
Contents	iv
List of Maps	vii
List of Figures	viii
List of Plates	xi
Abstract	xix
CHAPTER I. SOURCES AND SCOPE OF STUDY	1
CHAPTER II. MILITARY HISTORY	17
1. Vandals, Romans and Moors	18
2. The Vandal War (A.D. 533-534)	32
3. Solomon's first governorship and the mutiny of Stotzas (A.D. 534-538)	48
4. Solomon's second governorship (A.D. 539-544)	58
5. Military crisis (A.D. 544-546)	66
6. The governorship of John Troglitas (A.D. 546-c. 552)	73
7. The later sixth century and the reforms of the emperor Maurice (A.D. c. 552-602)	86
8. The seventh century	96
Appendix 1. Order of battle of the Byzantine expeditionary force (A.D. 533)	111
2. Praetorian prefects, <u>magistri militum</u> and exarchs of <u>Africa</u>	112
CHAPTER III. MILITARY ORGANIZATION AND DEFENSIVE STRATEGY	114
1. The structure of military command in <u>Africa</u>	115
The <u>magister militum</u> and exarch of <u>Africa</u>	115
The <u>duces</u>	118
The provinces of Byzantine Africa	122
2. The composition of the Byzantine army in <u>Africa</u>	133
The army of the <u>magister militum Africae</u>	136
The ducal armies	142
3. The garrison structure of Byzantine Africa (1)	145
Direct evidence for types of garrison: <u>comitatenses</u> , <u>limitanei</u> , <u>gentiles</u>	146
4. The garrison structure of Byzantine Africa (2)	158
The relation of settlement status to garrison type	159
The sizes of garrisons	166
5. The building of fortifications	178
6. Strategy and the siting of fortifications (1). General principles	188
7. Strategy and the siting of fortifications (2). The archaeological evidence	198
8. Refortification and <u>renouatio</u> in Byzantine Africa	218
Appendix 1. Cities referred to in <u>de Aedificiis</u> (A.D. 553/555)	240
2. Forts referred to in <u>de Aedificiis</u> (A.D. 553/555)	242

Contents (cont.).

3.	Settlements referred to as cities during the reign of Justinian, but not referred to as such in <u>de Aedificiis</u>	243
4.	Settlements referred to as cities later than the reign of Justinian	244
5.	The ranking of Byzantine fortifications in <u>Africa</u> by size	245
6.	Sixth- and seventh-century coin hoards from <u>Africa</u>	247
CHAPTER IV. MILITARY ARCHITECTURE AND TACTICS		249
1.	Introduction	250
2.	Building techniques	253
3.	The layout of fortifications	266
	Towers (<u>turres</u> , <u>burgi</u>)	267
	Forts (<u>castra</u> , <u>castella</u>)	273
	Fortresses, citadels and town walls	278
4.	Walls and lines of defence	280
5.	Towers	291
6.	Gateways	302
7.	Internal structures and services	313
8.	Conclusion	317
CHAPTER V. ENVOI - THE MIDDLE AGES		319

VOLUME TWO

GAZETTEER

AA.	Sites at which official sixth-century fortifications are attested by documentary and/or epigraphic evidence	327
AB.	Sites whose structural remains are strongly suggestive of official sixth-century fortification, when compared with examples in Gazetteer AA.	444
AC.	Sites probably provided with official fortifications in the sixth century, but for which the evidence, whether documentary, epigraphic or archaeological, is not conclusive	483
B.	Sites whose structural evidence suggests the possibility of official sixth-century fortification	497
CA.	Fortified sites referred to by Procopius	520
CB.	Corpus of sixth- and seventh-century inscriptions relating to (a) the construction of fortifications and (b) military matters in general	531
D.	Consolidated index of sites listed in Gazetteer AA, AB, AC and B	558

Contents (cont.).

Notes to Chapters I - V	558
Bibliography	717
a. Latin, Greek and Oriental (non-Arabic) sources	718
b. Arabic sources	728
c. Works published since 1600	731

VOLUME THREE

Maps 1 - 7.

Figures 1 - 49.

Plates I - LXXVII.

LIST OF MAPS.

1. Africa: Physical.
2. The ad Decimum campaign, A.D. 533 (The Byzantine line of march is indicated by a thick discontinuous line).
3. Africa: Distribution of Byzantine fortifications under Justinian.
4. Africa: Distribution of Byzantine fortifications after Justinian.
5. Africa: Location of fortifications of uncertain Byzantine identification.
6. Africa: Location of towns referred to by George of Cyprus (A.D. c. 600).
7. Byzantine Africa: Communications (after Salama 1951).

LIST OF FIGURES.

- Key to Figures 2-44 and 48.
- 1. CARTHAGO: Wall of Theodosius II (the course of the wall is represented by a thick black line).
- 2. THAMVGADI: Plan of fort (after Stawski and Christern, with additions).
- 3. THEVESTE: Tower k (after Maitrot 1911).
TIPASA (Tifech): Tower c (after Chabassière 1966).
TVBVNAE: Tower d (after Grange 1901).
THVBVRSICV BVRE: Tower a (after Saladin, in Diehl 1896).
- 4. Bordj Hallal: Tower o (after Sadoux, in Diehl 1896).
TIGISI: Tower i (after Chabassière 1866).
TIPASA (Tifech): Tower e.
VAGA THEODORIANA: Tower of the gasba (after Diehl 1896).
- 5. Corner tower types: (a) GADIAVFALA: Tower a (after Gsell 1898).
(b) THAMVGADI: Tower i (after Stawski).
(c) TVBVNAE: Tower c (after Grange 1901).
(d) LIMISA: Tower a (after Belkhodja 1968).
(e) AGBIA: Tower b (after Diehl 1896).
(f) MACTARIS: Bastion b (after Perron, in Charles-Picard 1974).
- 6. THELEPTE: Towers f and b (after Diehl 1896).
TVBVNAE: Gate b (after Grange 1901).
THAMVGADI: Gate b (after Stawski).
Ksar Belezma: Gate b (after Ballu 1926).
THEVESTE: Gate n, incorporating the Arch of Caracalla (after de la Mare, in Letronne 1847, with additions).
- 7. LEPCIS MAGNA: Tower and Postern Gate B4 (after Bartoccini 1961).
LIMISA: Gate b (after Belkhodja 1968).
SABRATHA: Gate c.
THEVESTE: Gate c or Porte de Solomon (after Maitrot 1911).
- 8. MILEV: Tower m (after Lassus 1956).
- 9. LEPCIS MAGNA: Gate B2 (after Goodchild and Ward-Perkins 1953).
- 10. TIGISI: Gate a (after Lancel and Pouthier 1957).
- 11. MADAVROS: Plan of fort (after Gsell and Joly 1914(2)).

List of Figures (cont.)

12. MADAVROS: Gate c (after Gsell and Joly 1914(2)).
13. THVGGA: Plan of fort (after Poinssot (C) 1958).
VPENNA: Plan of fort.
14. Ksar Belezma: Plan of fort (after Diehl 1896).
15. CHVSIRA: Plan of fort (after Diehl 1896).
16. AGBIA: Plan of fort (after Diehl 1896).
LIMISA: Plan of fort (after Belkhodja 1968).
17. TVBERNVC: Plan of fort (after Poinssot (L) and Lantier 1926).
18. AMMAEDARA: Plan of enceinte (after Saladin 1887a).
19. ANASTASIANA: Plan of fort (after de la Blanchère, in Diehl 1896).
20. CVLVLIS THEODORIANA: Plan of enceinte (after Roisin, in Atlas Tun. 50).
21. BAGAI: Plan of enceinte and fort (after Diehl 1896).
22. Bordj Hallal: Plan of enceinte (after Diehl, with alterations).
23. GADIAVFALA: Plan of fort (after Gsell 1898).
Ksar Graouch: Plan of fort (after Cintas 1954).
24. CALAMA: Plan of enceinte (after Ravoisié 1846(2)).
25. TIGISI: Plan of enceinte (after Chabassière 1882).
LARIBVS: Plan of enceinte (after Diehl 1896).
26. LEPCIS MAGNA: Plan of enceintes (after Goodchild and Ward-Perkins 1953).
27. MILEV: Plan of enceinte (after de la Mare 1850).
28. SABRATHA: Plan of enceinte (after Bartoccini 1964).
29. SITIFIS: Plan of fort (after Ravoisié 1846(1) and Diehl 1896).
30. SVFES: Plan of enceinte (after Diehl 1896).
31. THAGVRA: Plan of fort (after Gsell 1898).
Kef el-Kherraz: Plan of fort (after Gsell 1898).
32. THVBVRSICV BVRE: Plan of enceinte (after Saladin, in Diehl 1896).
THEVESTE: Plan of enceinte (after Gsell 1901).

List of Figures (cont.)

33. THELEPTE: Plan of enceinte (after Diehl 1896).
34. Ksar Otsman: Plan of enceinte (after Gsell 1898).
35. MACTARIS: Plan of fort built around the Severan Baths (after Perron, in Charles-Picard 1974).
36. RVSGVNIAE: Plan of enceinte (after Chardon 1900).
ZATTARA: Plan of enceinte (after Gsell 1898; note that the contours are evidently inaccurately drawn).
37. THVBVRSICV NVMIDIARVM: Plan of fort built around bath building (after Ballu 1919, with additions).
MVSTI: Plan of fort (after Beschouch 1968).
38. Gastal: Plan of fort (after Gsell 1898).
DIANA VETERANORVM: Plan of fort (after Gsell and Graillet 1894b).
39. THAMALLVLA: Plan of fort (after Gsell, in Diehl 1896).
40. TIGNICA: Plan of fort (after Saladin 1892).
41. TIPASA (Tifech): Plan of enceinte (after Gsell 1898).
42. TVBVNAE: Plan of fort (after Grange 1901).
43. ZARAI: Plan of fort (after Gsell 1893).
44. CHOBA: Plan of late Roman and Byzantine enceintes (after Gsell 1899).
45. CARTHAGO: Byrsa "palace" (after Lezine 1968c).
APOLLONIA-SOZUSA: Ducal palace (after Goodchild 1960).
46. SITIFIS: "Maison du rempart" (after Février (PA) 1965).
Gasr Duib: Late Roman fortlet (after Goodchild and Ward-Perkins 1949).
47. HENCHIR EL-GUECIRET: Late Roman ksar (after Pericaud and Gauckler 1905).
It-Tûbâ (Syria): Late Roman house (after Butler (HC) 1920).
48. SVFETVLA: Northern and southern Byzantine fortlets (after Duval (N) and Baratte 1973) (c = cistern; w = well; s = stable).
49. Sousse: The late eighth-century ribat (after Lézine 1956).

LIST OF PLATES.

- I. a. CARTHAGO. Teurf el-Seur ridge, marking the northern line of the Theodosian Wall, seen from near the Damous el-Karita.
 b. AMMAEDARA. Byzantine enceinte, viewed from S across the Oued Haïdra.
- II. a. AMMAEDARA. Byzantine enceinte: E wall viewed from S (Note remains of the Roman bridge over the Oued Haïdra).
 b. AMMAEDARA. Byzantine enceinte: Gate ab, at which the road from Carthage entered the citadel.
- III. a. AMMAEDARA. Byzantine enceinte: Tower c and postern from E.
 b. AMMAEDARA. Byzantine enceinte: Tower c and postern from W, showing internal arcading of the curtain wall.
- IV. a. AMMAEDARA. The citadel church from the E.
 b. ANASTASIANA. Inscription 32.
- V. a. ANASTASIANA. Byzantine fort from SW.
 b. ANASTASIANA. Byzantine fort from SE.
- VI. a. BAGAI. Byzantine enceinte: Part of robbed SW wall, looking NW.
 b. BAGAI. Byzantine enceinte: Robbed SW wall, looking SE from Bastion s.
- VII. a. Bordj Hallal. Byzantine enceinte: SW wall seen from Tower n.
 b. Bordj Hallal. Byzantine enceinte: Corner-Tower n from NW.
- VIII. a. Bordj Hallal. Byzantine enceinte: Tower o from N.
 b. CALAMA. Inscription 19.
- IX. a. CHVSIRA. Byzantine fort: Tower a from NW.
 b. CHVSIRA. Byzantine fort: Tower e from E.
- X. a. CVLVLIS. Byzantine enceinte: N wall looking W from Corner Tower e
 b. CVLVLIS. Byzantine enceinte: Detail of the foundations of the curtain wall between a and b.
- XI. a. CVLVLIS. Inscription 4.
 b. HIPPO REGIVS. Stretch of possible Byzantine walling on the NW flank of the hill of Gharf el-Artran.

List of Plates (cont.)

- XII. a. Ksar Belezma. Distant view of the site of the Byzantine fort from S, showing the tell formation (the result of post-Byzantine occupation inside it) which rises above the modern village.
 b. Ksar Belezma. Robbed E wall looking south, with the Monts de Belezma in the distance.
- XIII. a. LARIBVS. Byzantine enceinte: Tower a from N.
 b. LARIBVS. Byzantine enceinte: Tower a from S.
- XIV. a. LARIBVS. Byzantine enceinte: Tower z from W.
 b. LARIBVS. Byzantine enceinte: Tower z from S.
- XV. a. LARIBVS. Byzantine enceinte: Towers j and k from S.
 b. LEPCIS MAGNA. Byzantine enceinte: Gate B2.
- XVI. a. LEPCIS MAGNA. Byzantine enceinte: Tower and Postern B16 from N.
 b. LEPCIS MAGNA. Byzantine enceinte: Tower and Postern B16 from S, illustrating the rise in ground level that had taken place in the area of the Forum Vetus by the sixth century.
- XVII. a. LEPCIS MAGNA. Byzantine enceinte: Detail of the characteristic sixth-century shelly mortar adhering to Gate B2.
 b. LIMISA. Byzantine fort: Tower d from S.
- XVIII. a. LIMISA. Byzantine fort: SE wall and cistern from NE.
 b. LIMISA. Byzantine fort from E.
- XIX. a. LIMISA. Byzantine fort: Gate b and Tower c from the interior.
 b. LIMISA. Byzantine fort: Tower a, viewed from across the fort's interior.
- XX. a. MADAVROS. Byzantine fort: Gate c.
 b. MADAVROS. Byzantine fort: Interior of fort (excavated to Roman layers) seen from the seats of the Roman theatre (compare Fig. 12).
- XXI. a. MADAVROS. Byzantine fort viewed from W, showing the hemicycle of the theatre with Byzantine superstructure.
 b. MADAVROS. Byzantine fort: Foundations of Tower e and other work of the First Phase.
- XXII. a. MADAVROS. Byzantine fort: Aerial view from S (Reproduced by courtesy of the Institut d'Archéologie Méditerranéenne, Aix-en-Provence).

List of Plates (cont.)

- XXII. b. MILEV. Byzantine enceinte: Gate a (Bab el-Bled).
- XXIII. a. MILEV. Byzantine enceinte: Tower g, showing nineteenth-century refurbishment.
 b. MILEV. Byzantine enceinte: Tower m (compare Fig. 8).
- XXIV. a. MILEV. Byzantine enceinte: Tower m, interior (compare Fig. 8).
 b. SABRATHA. Byzantine town wall built through an abandoned Roman insula, seen from inside the enceinte between e and f.
- XXV. a. SABRATHA. Byzantine enceinte, looking E from d.
 b. SABRATHA. Byzantine enceinte, looking W from Gate c and showing a quarter of the Roman town that was abandoned by the sixth century.
- XXVI. a. SABRATHA. Byzantine enceinte: Gate c from S (The foreground is occupied by earlier Roman buildings).
 b. SABRATHA. Byzantine enceinte: Gate c from N.
- XXVII. a. SABRATHA. Byzantine enceinte: Gate c from SE.
 b. RVSGVNIAE. General view of the site of the late Roman and Byzantine town from the Tamentfoust promontory to the NW.
- XXVIII. a. SICCA VENERIA. The Turkish gasba from the W, with the trace of the Byzantine town wall in the middle foreground.
 b. SITIFIS. Byzantine fort: W wall from NW.
- XXIX. a. SITIFIS. Byzantine fort: Tower c from SW, with post-Byzantine outer enceinte in the foreground.
 b. SITIFIS. Byzantine fort: Part of the curtain wall between a and k, illustrating the change in masonry between sectors built by different working parties.
- XXXX. a. SITIFIS. Byzantine fort: Blocked postern gate b.
 b. THAGVRA. Byzantine fort: Interior of Tower a, showing entrance passage and the collapsed vault of an inserted cistern.
- XXXI. a. THAGVRA. Byzantine fort from W.
 b. THAGVRA. Byzantine fort: Curtain wall between Towers a and b.
- XXXII. a. THAGVRA. Byzantine fort: Site of Tower c, commanding a view to the NE.
 b. THAGVRA. Byzantine fort: Tower b.
- XXXIII. a. THAMVGADI. Byzantine fort: Aerial view from NW (Reproduced by courtesy of the Institut d'Archéologie Méditerranéenne, Aix-en-Provence).

List of Plates (cont.)

- XXXIII. b. THAMVGADI. Byzantine fort: General view from NW.
- XXXIV. a. THAMVGADI. Byzantine fort: W wall viewed from NW (Note that Corner Tower a, in the foreground, is a modern reconstruction).
 b. THAMVGADI. Byzantine fort: Blocked Postern Gate e, from the outside.
- XXXV. a. THAMVGADI. Byzantine fort: Entrance-passage into Tower i.
 b. THAMVGADI. Byzantine fort: Redundant keying blocks on the inner face of the W wall (The barrack wall as built was on a different alignment and at a lower level to those originally intended).
- XXXVI. a. THAMVGADI. Byzantine fort: Gate b from N.
 b. THAMVGADI. Byzantine fort: Eastern part of the fort's interior, seen from Tower g.
- XXXVII. a. THAMVGADI. Byzantine fort: Roadway running between barrack blocks and parallel to the E wall of the fort, looking N (Note stair to upper storey on the right).
 b. THAMVGADI. Byzantine fort: Mangers in the lower floor of one of the barrack cells built against S wall of fort.
- XXXVIII. a. THAMVGADI. Byzantine fort: Gate b, rebate for inner wing-door and slot for draw-bar.
 b. THAMVGADI. Byzantine fort: Gate b, outer slot for portcullis.
- XXXIX. a. THAMVGADI. Byzantine fort: Chapel, viewed from SE.
 b. THAMVGADI. Byzantine fort: Bath building, viewed from NE.
- XL. a. THAMVGADI. Byzantine fort: Inscription 25.
 b. THAMVGADI. Byzantine fort: Inscription 27 (fragment f).
- XLI. a. THAMVGADI. Byzantine fort: Vaulted floor inside Tower d, seen from below.
 b. THELEPTE. Peristyled building (m) flanking the inner face of the N wall of the Byzantine enceinte.
- XLII. a. THELEPTE. Byzantine enceinte: E wall looking S from Corner Tower b (The stones in the foreground represent the S facing of the diagonal entrance-passage to the corner tower).
 b. THELEPTE. Byzantine enceinte: W wall looking S towards n.
- XLIII. a. THEVESTE. Byzantine enceinte: Gate c (Porte de Solomon) from SE.
 b. THEVESTE. Byzantine enceinte: Gate c (Porte de Solomon) from W.

List of Plates (cont.)

- XLIV. a. THEVESTE. Byzantine enceinte: Curtain wall between Towers m and l, showing Turkish artillery casemate inserted in the latter and the French rampart-walk made by removing the inside facing of the Byzantine wall.
- b. THEVESTE. Byzantine enceinte: Gate n (Arch of Caracalla) seen from inside the enceinte.
- XLV. a. THEVESTE. Byzantine enceinte: Gate n (Arch of Caracalla) from NW.
- b. THEVESTE. Byzantine enceinte: Corner Tower d seen from the rampart-walk to the N (The following Byzantine features are still visible, despite the French refurbishment: corbelled rampart-walk, a doorway into the tower at the same level, ? remains of latrine chamber on the right).
- XLVI. a. THEVESTE. Byzantine enceinte: S wall looking W from Tower d (Note the corbelled Byzantine rampart-walk surviving against each tower).
- b. THEVESTE. Byzantine enceinte: Inner face of the curtain wall between e and f, incorporating the scena of the Roman theatre (systematised in 1886).
- XLVII. a. THVBVRSICV BVRE. Byzantine enceinte: Tower a from W.
- b. THVBVRSICV BVRE. Byzantine enceinte: Towers d and c from NE (Note later rebuilding in a type of opus africanum).
- XLVIII. a. THVBVRSICV BVRE. Byzantine enceinte: Gate b (The top of the Byzantine arch just protrudes above street level).
- b. THVBVRSICV BVRE. Byzantine enceinte: Gate b. Remaining section of Inscription 29 surmounting the Byzantine arch.
- XLIX. a. THVGGA. Byzantine fort enclosing the forum and capitol. The postern gate (b) to the left of the temple indicates the sixth-century ground level.
- b. THVGGA. Byzantine fort: Tower a viewed from inside the fort (Note that the curtain wall to the right of the tower is built over the remains of earlier Roman buildings).
- L. a. THVGGA. Byzantine enceinte: Tower d from E.
- b. THVGGA. Byzantine enceinte: Interior of Tower d, showing entrance-passage and ? inserted corner pilasters.
- LI. a. THVGGA. Byzantine fort: Postern Gate b from NW.
- b. TIGNICA. Byzantine fort: Arrow-slit in N wall of Tower b.
- LII. a. TVBERNVC. The three cells of the Roman forum temples (x) which stand in the centre of the Byzantine fort, viewed from E.

List of Plates (cont.)

- LII. b. TVBERNVC. Byzantine fort: SW wall, including Towers e (foreground) and d, and the ruins of the mosque (y), looking SE.
- LII. a. TVBERNVC. Byzantine fort: SE wall viewed from Tower b.
 b. TVBERNVC. Byzantine fort: Structures in opus africanum built over the buried remains of Tower a, viewed from S.
- LIV. a. VAGA THEODORIANA. Byzantine and Turkish qasba dominating the modern town of Béja, seen from SE. The line of the Byzantine town wall is represented by the wall running downhill from the qasba.
 b. VAGA THEODORIANA. Byzantine tower incorporated into the Turkish qasba, seen from W.
- LV. a. AGBIA. Byzantine fort: W wall viewed from SW, with Tower d in the foreground.
 b. AGBIA. Byzantine fort: Site of Tower a, viewed from S.
- LVI. a. AGBIA. Byzantine fort: Tower b from NW.
 b. AGBIA. Byzantine fort: Tower c from NE.
- LVII. a. AGBIA. Byzantine fort: Tower d from NE, showing later additions in opus africanum and still cruder masonry of the caravanserail phase.
 b. DIANA VETERANORVM. Fortlet built around the Arch of Macrinus.
- LVIII. a. DIANA VETERANORVM. Byzantine fort: SE wall seen from Tower f.
 b. DIANA VETERANORVM. Byzantine fort: Aerial view taken from S (Reproduced by courtesy of the Institut d'Archéologie Méditerranéenne, Aix-en-Provence).
- LIX. a. DIANA VETERANORVM. Byzantine fort: Entrance-passage to Corner Tower c, seen from inside the fort (Note the improvised rampart-walk dating from a post-Byzantine phase).
 b. DIANA VETERANORVM. Byzantine fort: Excavated interior of Corner Tower c.
- LX. a. DIANA VETERANORVM. Byzantine fort: NW gate (b) seen from inside the fort (The lintels and rampart-walk belong to a post-Byzantine phase).
 b. MACTARIS. Byzantine fort built around the Severan baths, viewed from NE.
- LXI. a. MACTARIS. Byzantine fort: Gate a and Bastion b from SW.
 b. MACTARIS. Byzantine fort: Remains of two-storeyed barracks inside Gate a.

List of Plates (cont.)

- LXII. a. MVSTI. Byzantine fort from S.
 b. MVSTI. Byzantine fort: Stair to the rampart-walk inside Gate d.
- LXIII. a. MVSTI. Byzantine fort: Gate a, flanked by Bastion b, from NE.
 b. THVGGA TERE BENTINA. Byzantine fort: NW wall seen from W corner tower.
- LXIV. a. THVBVRSICV NVMIDIARVM. Byzantine fort from S.
 b. THVBVRSICV NVMIDIARVM. Byzantine fort: S wall seen from within the Roman bath building around which the fort is built (Note that sixth-century ground level would have been at the level of the gate's threshold).
- LXV. a. THVBVRSICV NVMIDIARVM. Ksar el-Kebir, looking NE across the central court towards the entrance.
 b. THVBVRSICV NVMIDIARVM. Fortified church, seen from the E.
- LXVI. a. TIGNICA. Byzantine fort: N wall from NE.
 b. TIGNICA. Byzantine fort: E wall from SE.
- LXVII. a. TIGNICA. Byzantine fort: Bent entrance within Tower d.
 b. TVBVNAE. Site of Byzantine fort viewed from NW.
- LXVIII. a. TIPASA (Tifech). Byzantine enceinte from SE.
 b. TIPASA (Tifech). Byzantine enceinte: E wall looking S from around Tower i.
- LXIX. a. VPPENNA. Byzantine fort: S wall looking W from e.
 b. VPPENNA. Byzantine fort: Interior of Tower d, showing the spring of the barrel-vault and the lintel of the diagonal entrance-passage.
- LXX. a. VPPENNA. Byzantine fort: Tower b from E.
 b. VPPENNA. Byzantine fort: Tower b from SE.
- LXXI. a. ZARAI. Site of Byzantine fort seen from NE.
 b. CLVPEA. Turkish fort from SW.
- LXXII. a. SVFETVLA. Interior of the northern fortlet.
 b. SVFETVLA. Stables inside the northern fortlet.
- LXXIII. a. LEPCIS MAGNA. Byzantine enceinte: Gate B2.
 b. THEVESTE. Byzantine enceinte: Gate c (Porte de Solomon).

List of Plates (cont.)

- LXXIV. a. Bordj Younga. Ninth-century ribat: NE postern gate, which takes the form of a bent entrance defended by a machicolation.
- b. Bordj Younga. Ninth-century ribat: Inner face of NW wall (Note the arcading and the fact that the ninth-century foundations rest directly on top of a pair of Roman cisterns).
- LXXV. Bordj Younga. Ninth-century ribat: E corner tower, built to a cylindrical design on a polygonal foundation.
- LXXVI. a. Lemta. Ribat: NE corner tower.
- b. Sousse. Eighth-century ribat viewed from SE.
- LXXVII. a. Sousse. The western part of the ninth-century town walls, looking S.
- b. Sousse. Internal arcading of the ninth-century south wall of the town, looking W towards the gasba.

ABSTRACT.

'Sixth-century fortifications in Byzantine Africa: An archaeological and historical study'

by Reginald Denys Pringle, Keble College

submitted for the degree of Doctor of Philosophy (D.Phil)

in Trinity Term 1978.

This thesis surveys and discusses the documentary and archaeological evidence for sixth-century fortifications in Byzantine Africa. Chapter I examines the sources of evidence, noting that over 80 years have passed since the last major study of the subject was undertaken, by Charles Diehl in 1896. Chapter II traces the military history of Byzantine Africa from 533 to 602, with introductory and concluding sections on the fifth and seventh centuries. Chapter III discusses the evidence for the military organization and defensive strategy of Byzantine Africa in the sixth century, looking in particular at the structure of military command, the composition of the Byzantine army, the garrison structure (including the evidence for the nature and size of local garrisons stationed in forts and towns), the administrative mechanisms by which fortifications were built and the strategy to be discerned in their siting. The chapter ends with a general appraisal of the benefits that Roman Africa received from Justinian's reconquest. Chapter IV examines the architecture of Byzantine fortifications in Africa, comparing it with earlier and contemporary practice in the eastern and western empires. The tactical aspects of fortifications are also considered, in particular the question of how far their design was influenced by the use made of artillery and archery in the sixth-century Byzantine army. In a short final chapter, an assessment is made of the value that the study of sixth-century Byzantine fortifications in Africa has for understanding later developments in the military architecture of eastern and western Christendom and of Islam. The Gazetteer includes full descriptions (with plans and photographs) of all the Byzantine fortifications identified in Africa, and shorter notes on other structures of more doubtful Byzantine identification; an index to fortifications in Africa referred to by Procopius; and a corpus of sixth- and seventh-century military inscriptions from Africa.

CHAPTER I.

SOURCES AND SCOPE OF STUDY

From the time of the capture of Carthage from the Vandals by Belisarius in 533 until its fall to Hassan ibn al-Nu^cman in 698, a period of 165 years, the prefecture of Africa formed an integral part of the Byzantine empire. During the first century of Byzantine rule, its territory was progressively covered by a system of fortifications, built in most cases on new foundations. In their architecture these works are of particular interest in illustrating the transition between late Roman and early medieval techniques for designing and constructing fortifications in stone. In their siting, they also shed light on the political, administrative and economic geography of Byzantine Africa. Some eighty sites that were provided with official works of fortification can be identified in Byzantine Africa by means of their surviving physical remains or from earlier written accounts. To these may be added another forty of much less certain identification and several hundred more defensive works of an ad hoc character, the possible dates of which range from the fourth century to the Muslim period.

The earliest written work to deal, amongst other things, with the fortifications built by the Byzantine administration in Africa in the sixth century is the de Aedificiis (περὶ Κτισμάτων) of Procopius of Caesarea, published between the spring of 553 and the summer of 555 (*1). The de Aedificiis takes the form of a panegyric, extolling Justinian's virtues as a patron of building throughout the empire. In order to write it, Procopius seems to have been given access to official documents in Constantinople; his descriptions of the buildings in certain parts of the empire are therefore accompanied by lists naming the fortifications built or restored by the emperor (*2). In view of its detail and authority, the de Aedificiis is an indispensable source

I.

of information for the archaeologist and architectural historian interested in the reign of Justinian. Unfortunately, however, the work was left incomplete. The book that was to deal with Italy was never written and the section on Africa, which immediately precedes it, seems to be no more than a rough draft, which the author intended to fill out with more detail at a later date. Indeed, the provisional nature of this section as it stands is illustrated by the fact that Procopius's later version of the de Aedificiis, represented by the Vaticanus text, names certain fortified places in Numidia (*3) which are omitted from the earlier version given by the Ambrosianus text (*4). Despite these shortcomings, however, the de Aedificiis supplies the names of twenty-eight cities fortified in Africa by Justinian, as well as those of seven forts (*5).

In addition to the de Aedificiis, Procopius has left us, in Books III and IV of his history of the wars of the reign of Justinian, a military history of Africa from 533 to 548. The value of this history is enhanced not only by its detailed nature, but also by the fact that Procopius had personal knowledge of much of what he was writing about. He had participated in the campaign against Gelimer as a member of Belisarius's staff, and had remained in Africa after the Vandals' defeat, serving, so it would appear, on the staff of Belisarius's successor Solomon until 536, when he and Solomon were forced to flee to Sicily to avoid being captured by the mutineers. The first seven books on the wars were begun in around 540 and published in 553; in view of the fact that Book IV takes the history of Byzantine Africa no further than John Troglitas's victory over the Moors in 548, however, it would seem likely that it and Book III were already finished soon after that date (*6).

I.

Although Procopius's military history of Africa continues up to 548, the period after 546 is dealt with in only a few lines (*7). It is fortunate, therefore, that another source for this period exists in the Iohannidos of Flavius Cresconius Corippus, an epic poem recounting the campaigns of the magister militum Africae John Troglitas against the Moors. While taking account of its more obvious literary embellishments, there are good reasons for accepting the general historicity of the work. Corippus was an African writing in Africa soon after the conclusion of John's final campaign of 548. Many of the characters in the poem, if not known personally to him, would almost certainly have been known to members of the proceres of Carthage, to whom it was addressed. Finally, the account of the campaigns that it presents corresponds with what is known of them from Procopius's summary account. The Iohannidos is of particular value for the topographical details that it gives and for its references to the names of Moorish tribes (*8).

After 548, no Greek or Latin source deals with military events in Africa with anything like the same detail that Procopius or Corippus had devoted to them before that date. To construct a military history for the next one hundred years, it is therefore necessary to rely on occasional references made in the writings of chroniclers whose main concern was with other parts of the empire. The sixth-century African chronicler Victor Tonnennensis is unfortunately no more informative about events in Africa than elsewhere in the empire. In the last two decades of the sixth century, the letters of pope Gregory the Great shed some light on the military and civil administration of the exarchate; and the Descriptio Orbis Romani of George of Cyprus gives a list of civil provinces and an incomplete list of towns existing in around 600. Many

I.

of the Greek sources which relate to the sixth and seventh centuries, however, such as the chronicles of Nicephorus and Theophanes, were written much later, in the ninth and tenth centuries.

Two other sixth- or early seventh-century sources should also be mentioned as being of value to the student of sixth-century fortifications. These are the Anonymous military treatise known as the de Re Strategica and the Strategicon, the latter of which was at one time attributed to the emperor Maurice; both of these contain sections on the principles of attacking and defending fortified places. Altogether, some nine military treatises survive in whole or in part from the sixth century. They belong to a tradition of military science that can be traced back to Hellenistic texts of the fourth century B.C. Care should therefore be exercised when making use of sixth-century treatises to explain surviving monuments of military architecture of that date, since theory and practice were often somewhat different (*9). A mid-to late sixth-century date for the de Re Strategica is suggested by, amongst other general considerations, a reference that it contains to a technique of withdrawing in the face of superior numbers which it describes as one used by Belisarius (*10). The writer of the Strategicon seems to have been a professional soldier, who had experienced military service in the Danube region, fighting the Slavs. This consideration and the fact that the Persians are given a prominent position in the part of the treatise which describes the fighting methods of the empire's principal enemies suggest a date probably before 602 and certainly before c.630, after which the Persian empire had ceased to exist. Whether the work was written by the emperor Maurice himself, or by another, is uncertain and in any case does not affect the undoubted value of the treatise

I.

as a source for architectural and military historians (*11).

After the Byzantine sources, the next group of texts to shed light on the sixth-century Byzantine military history and archaeology of Africa is the collection of Arabic sources which relate the conquest of Ifriqiya by the Arabs in the later seventh and eighth centuries. For the historian, the Arabic sources pose a number of particular problems. The first is that the earliest Arabic accounts of the conquest date from some two centuries after the events which they describe and were compiled from oral traditions which even then displayed inconsistencies one with another. The most informative of these, the account given by Ibn ^cAbd al-Hakam (pre-871), was conceived as a quasi-juridical treatise, in which historical example was sought to explain certain legal points; its historical value is therefore difficult to assess (*12). Secondly, while the ninth-century texts generally give no more than a historical outline, the sources dating from the eleventh century onwards provide much fuller accounts of the campaigns and the personalities involved in them, despite the fact that their sources were for the most part the same as those used in the ninth century. It seems highly probable that the explanation for this lies in the development of literary rather than historical technique in the later period. For all the problems that surround their interpretation, however, it is in these sources that Oea, Sabratha, Capsa, Cululis, Bagai, Lambaesis, Thabudeos, Carthage and Septem each make their last appearance as fortified positions in the hands of the Byzantines or Roman Africans (*13).

More useful to the medieval archaeologist than the writings of the Arab historians are the topographical accounts written in Arabic from the eleventh to the sixteenth centuries. As well as describing forti-

I.

fications of earlier periods that still existed, either in ruins or in use, in the middle ages, these also provide evidence from which their subsequent building history can be reconstructed. The earliest Arab geographer to provide significant details of this kind is al-Bakrī, whose work was written in around 1068. From the following century comes a description of the known world written by al-Idrīsī, who was attached to the court of Roger of Sicily; this work was based on reports made by a number of travellers sent out from Sicily, and was completed in 1154. A revision of al-Bakrī's geography, Istibsār, was made by an anonymous North African in 1191. The most recent in the line of medieval Arab geographers to give details of Byzantine fortifications still standing in Ifriqiya is al-Wazānī, otherwise known as Leo Africanus. This writer was born in Granada in the last decade of the fifteenth century, but was captured at sea by Christians and baptised by the pope. He translated his own description of North and West Africa into Italian in 1526 (*14).

The story of Thomas d'Arcos was the exact reverse to that of al-Wazānī. Born a Spanish Christian in around 1586, he was captured in 1628 and sold as a slave in Tunis. Four years later, he became a Muslim, taking the name of Osman. His letters to his acquaintances continue until 1637 and include one which contains a description of the Byzantine fort at Tignica (*15). Although a number of descriptions of the coasts of Barbary were made by Europeans from the seventeenth century onwards (*16), it was not until the early eighteenth century that European travellers were able, often a ^t great personal danger, to penetrate the interior regions of what are now Algeria and Tunisia. The eighteenth-century travellers whose accounts give descriptions of Byzantine forti-

I.

fications include the following: J.A. Peyssonnel, whose travels were made on the orders of King Louis XV of France in 1724 and 1725; the Spanish priest, Francisco Ximenez, who was working in Tunis at the same period; and the Revd. Thomas Shaw, chaplain to the British factory at Algiers, whose work, Travels or Observations relating to several parts of Barbary and the Levant (1738), laid the foundations for the topographical study of Roman Africa (*17).

The French conquest of Algeria from 1830 onwards opened up North Africa to European travellers and scholars, though for much of the nineteenth century travel was still attended by danger and was usually undertaken only in the company of an armed escort (*18). In 1837, the government of Louis Philippe set up a commission to 'rechercher et réunir tout ce qui pouvait intéresser les sciences et les arts' (*19). The result of this was the publication of a series of scholarly monographs concerned with various aspects of the natural and human history of Algeria. For the Byzantine archaeologist, the most important of these are A. Ravoisié's collection of drawings of Roman and Byzantine architecture and sculpture, published between 1846 and 1853; and A.H.A. de la Mare's drawings of sites in the region of Constantine, made between 1840 and 1845, of which a selection of 193 was published in 1850 and provided with an explanatory text by S. Gsell in 1912. Both of these collections contain plans and drawings of Byzantine fortifications as they existed at the time of the French occupation.

In the later nineteenth century, the recording of archaeological sites was undertaken on a more systematic area-by-area basis by the Brigades topographiques of the French army, during the course of mapping Algeria and Tunisia (*20). The data gathered by these survey teams,

I.

though of variable quality, form the basis for the archaeological atlases of Algeria and Tunisia. Of these it may be noted that the Atlas archéologique de l'Algérie (1902-1911), edited by S. Gsell, is of incomparably finer quality than either Tunisian series (*21). The first large-scale corpus of Roman inscriptions from Africa was made by L. Renier in 1855-86, and was expanded by G. Wilmanns, R. Cagnat, I. Schmidt and others in volume VIII of the Corpus Inscriptionum Latinarum, which appeared gradually from 1881 to 1955 (*22). In 1880, the first great archaeological excavations began at Thamugadi, to be followed three years later by that of Lambaesis; by 1910, seven more Roman town sites were under excavation, and all but two of these chantiers were still active in 1946.

For many French Algerians of the late nineteenth and early twentieth century, the study of the Roman past was stimulated by more than simply antiquarian or scholarly interest, since in the colonialist ideology of the day the French colon was seen as the natural heir to Roman Africa (*23). For the colonist, the Roman archaeology of Africa could also provide practical benefits, some of which were analysed by Dr. L. Carton in a paper published in 1890. Carton argued that by studying the methods by which the Romans had exploited the land of Africa, French colonists would be able in a short while to rebuild from the agrarian base upwards a flourishing urbanized society, such as that which had existed in Africa in the Roman period. Carton singled out for particular attention Roman techniques of olive-farming, forestry, cereal-production, the divining of mineral water springs, the mining of metal ores, quarrying, hydraulic engineering and road-building (*24). One less fortunate aspect of the French colon's appropriation of his Roman inheritance, however, was the

I.

acceleration that occurred in the rate at which surviving buildings were destroyed either for their building materials or for agricultural purposes. A number of French new towns were also laid out over the ruins of deserted Roman ones; at Rusicade, for example, the Roman street plan was retained almost unaltered in the French Philippeville (now Skigda). At the same time, the Byzantine fortifications at Constantina, Theueste, Mileu and Calama in Algeria and Sicca Veneria and Capsa in Tunisia were converted into garrison posts, a function which some of them still perform.

The first historical and archaeological syntheses, based on some fifty years of topographical and epigraphic research, carried out in the field by the French army on the one hand and by a growing number of local correspondents, drawn mostly from the ranks of the professional men such as doctors, civil servants, churchmen and engineers, on the other, began to appear in the last decade of the nineteenth century. They included R. Cagnat's study of the Roman army in Africa (1893; 2nd. edn. 1913), J. Toutain's work on Roman municipal history (1895), S. Gsell's eight-volume ancient history of North Africa up to the beginning of the principate (1913-28) and Charles Diehl's L'Afrique byzantine: histoire de la domination byzantine en Afrique (533-709) (1896). The last-mentioned is the most comprehensive work on Byzantine Africa yet written, and forms the point of departure for the present study.

Diehl's book was the fruit of several years spent working on the documentary sources and of two visits undertaken in 1892 and 1893 to study Byzantine architecture and archaeology in Africa in the field (*25). It was his second major work and followed a doctoral thesis on the Byzantine exarchate of Ravenna, which had been published in 1888. Some of

I.

the features of Byzantine government in Italy that he had examined in the earlier work he was able to discern again when he came to look at Africa. These included, for example, the progressive militarization of the civil administration, the clash of cultures provoked by the attempts made by Constantinople to impose religious and cultural uniformity on the western provinces and the fact that in the end, despite the military problems that had faced them and their eventual failure, the Byzantines had nevertheless been able to keep hold of their western possessions for some two centuries. Although Diehl's book on Africa was in some respects a natural sequel to his thesis on Italy, it broke new ground in relating the social, political and administrative history of the prefecture to the surviving archaeological evidence. Diehl paid particular attention to the methods adopted for defending Africa, defining types of military work, their relation to contemporary sixth-century military theory as illustrated by the treatises of the period, and to the military history of Byzantine Africa. Although he may be criticised for having accepted as Byzantine many fortifications which are as likely to have been late Roman or early Muslim, the very scale of the programme of building that was shown to have been undertaken by the Byzantine administration in Africa in the sixth century served as a vivid illustration of the energetic policies pursued by successive emperors in the prefecture and gave the lie to the commonly accepted view that Roman Africa had virtually ceased to exist politically, culturally and economically after the Vandal invasion.

By stressing the positive side of the Byzantine achievement in Africa, Diehl ran counter to an attitude which is discernible in much of the North African archaeological writing of the nineteenth and early

I.

twentieth century, namely that the Byzantines were in many respects little better than the barbarians themselves; through their military and cultural effete-ness they not only allowed Africa to fall, but they also destroyed much of its Roman architectural heritage in the process. A number of writers have seen the Byzantines' fortifications in Africa as particularly symbolic of their cultural decline. In 1897, for example, Ballu wrote of the fort at Thamugadi: 'Cette vaste citadelle, édi- fiée à la hâte par la soldatesque à demi-barbare du général Solomon, est un des exemples les plus frappants de ces constructions erigées, aux dépens des ruines voisines, par les guerriers de cette époque qui, in- capables de concevoir ou d'exécuter une oeuvre architecturale ayant un caractère propre, n'ont laissé en Afrique que des pierres entassés les uns sur les autres, sans autre préoccupation que celle de l'établis- sement d'une défense précipitée' (*26). Similar sentiments were expressed by Louis Bertrand writing of the fort at Thugga in 1921: 'Les odieux Byzantins avaient étranglé le Capitole et le quartier avoisinnant dans une de leurs petites forteresses massives, bassement utilitaires, bâc- lées à la hâte avec des matériaux d'emprunt ... Rien n'exi^ate la mauvaise humeur du passant comme la survivance de ces bâtiments parasites et misérables, qui symbolisent en quelque façon le rétrécissement de l'Empire arrivé à l'extrême période de sa décadence' (*27).

Such hostility towards the Byzantines, although it was not always expressed in so forceful a way, may be variously explained. Partly, no doubt, it was a logical result of the traditional art-historical approach to archaeology and of the idea that Roman imperial art had followed a course of progressive decline from the classical ideals inherited from Greece. Until within the past two decades, relatively little was known

I.

of Byzantine religious architecture in Africa, and in any case the remains of the churches that had been excavated gave little idea in themselves of how the buildings would have appeared when standing and with their internal decoration still intact. Another reason for the low opinion held of the Byzantines, however, is likely to have been that their failure to restore Christian Roman Africa and to prevent its collapse raised the uneasy question of the durability of France's own colonial activity in North Africa. It was naturally the achievements of the Romans in Africa in the second and third centuries rather than the apparent failures of the Byzantines in the sixth and seventh that fired the imagination of French Algerians; it is no surprise, therefore, to find that it was generally speaking the archaeology of these centuries that attracted more interest and more government funds than that of any other during the colonial period.

In the eighty years that have followed the publication of L'Afrique byzantine, ideas on the Byzantine fortifications of Africa have progressed very little. This may seem particularly surprising in view of the great advances that have been made in the field of the Christian archaeology of Byzantine Africa during the past twenty years. One explanation may be the lack of sympathy for the Byzantines and their fortifications that has already been mentioned. Another, however, was probably that Diehl's own masterly treatment of the subject appeared to have exhausted all its possibilities for a considerable period thereafter.

Despite the absence of any general reappraisal of the subject of the Byzantine fortifications of Africa during the course of the present century, the means for undertaking such a study have been gradually accruing. A number of sites, for example, have been excavated either

I.

in whole or only in part. They include Tubunae (1900-01), Thugga (from c. 1900), Thubursicu Numidiarum (from c. 1900), Tignica (1907), Madauros (c. 1910-), Tubernuc (1920-), Ksar Belezma (1920s), Mileu (1927; 1957), Cululis (1944), Diana Veteranorum (1950-53), Tigisi (1955) and Mactaris (1955). More significant than any of these, however, was the excavation of the fort at Thamugadi that was begun in 1939 (in order to coincide with the Congress of Byzantine Studies which was to have been held in Algiers that year (*28)) and continued until 1958. In most of these excavations, however, the methods that were followed consisted in laying bare the solid structure of the fort and then studying what remained of it, using the techniques of the architectural historian. In some cases, the excavators were more interested in what lay beneath the forts than in the forts themselves. Incalculable destruction was therefore wrought for modest returns of useful information. Stratigraphic excavations of a limited nature were undertaken, however, by the post-war British authorities in Tripolitania at Lepcis Magna and Sabratha. Since Tunisia's achievement of independence in 1956, excavations have also continued at Mactaris and have been initiated at Musti and Limisa. Apart from the information derived from excavations, new dating evidence for some sites has appeared since 1896 from epigraphic finds and from reconsideration of the identification of the sites referred to by Procopius (*29).

In view of the different types of evidence that may be used for the study and dating of Byzantine fortifications in Africa and of its variable quality and reliability, one prerequisite for reconsideration of them either in architectural or human terms is to define certain criteria by which fortifications may be accepted as being Byzantine and sixth-

I.

century at all. This is particularly important in view of the fact that in the past the term 'Byzantine' has been applied indiscriminately to a wide range of late Roman, Byzantine and early Muslim fortifications for no better reason than that they appeared to certain writers to be 'late' and 'hastily built'. I therefore propose to define four categories of fortified sites on the basis of the nature and reliability of the evidence which suggests them to have been Byzantine. These categories correspond to the first four sections of the Gazetteer.

Category AA (see Gazetteer AA) represents sites at which official sixth-century fortifications are clearly attested by documentary and/or epigraphic evidence, whether or not they actually survive. Category AB represents sites which possess (or possessed) structural evidence of fortifications, which when compared with the architectural evidence (where it exists) of sites in Category AA, strongly suggests official Byzantine work. Category AC represents sites at which the existence of official sixth-century Byzantine fortifications seems probable, but for which the evidence, whether documentary, epigraphic or structural, is open to question. Finally, Category B includes sites at which structural remains suggest no more than the possibility of their having been fortified officially in the sixth century.

As more information becomes available, it should be possible to add sites to those listed in the Gazetteer and to promote some of those already listed from Category B to AC, from AC to AB, and so forth. Some of the sites at present listed in Category B may also have to be relegated altogether. It is hoped that far from inhibiting future work on the fortifications of Byzantine Africa, the Gazetteer may also serve as a base upon which new research of a general or particular nature may build, while the discussion which precedes it may act as a guide and a

I.

stimulus by raising questions which in the present state of knowledge cannot yet be adequately answered.

CHAPTER II.
MILITARY HISTORY.

1. Vandals, Romans and Moors

The zone of north-western Africa over which settled life has been found possible in recorded history stretches from the Atlantic coast of Morocco to the Gulf of Syrtes and covers an area of approximately 900,000 km², wedged between the desert and the sea (*1). In Arabic it is known as the Djezirat al-Maghrib, the island of the west (*2). The land is mountainous. In western Algeria, where the structure is well defined, two great ranges, the Tell Atlas and the Saharan Atlas, run roughly parallel to the coast and are separated by high plateaux which extend as far east as the Chott el-Hodna. Communications between the coast and the hinterland are limited to the points at which rivers have been able to break through the northern massif to reach the sea; other rivers flow south into the desert, while others again, failing to break out at all, terminate in salt lakes. In the north-eastern part of Algeria, the two mountain systems merge and their alignment turns towards the north-east at around the line of the Tunisian frontier. The character of Tunisia is therefore somewhat different. The northern part of the country, the Tell region, and the western part of central Tunisia, the Dorsal, are made up of a continuation of the Algerian Atlas chains. Communications within the mountain region run mostly north-east to south-west, following the grain, the key point of access being the region around Tunis and Carthage in the north-east. South and east of the Dorsal extends a zone of steppes and salt marshes (sebkret), which slopes gently down to the sea in the east and to the great salt lakes (chotts) in the south. In Tripolitania, another mountain range, the Djebel Nefusa, runs north-eastwards to meet the coast between Tripoli and Lepcis Magna (*5).

II.1.

The Vandal kingdom occupied only about one-ninth of the total area of the Maghrib during the half-century before the Byzantine reconquest under Justinian, and less than one-half of the Roman diocese of Africa as it had existed on the eve of the Vandal conquest (*4). The rest of the area, and much of that over which the Vandals exercised nominal control, was populated by autonomous Moorish communities. Whilst it was against the Vandals that Belisarius's expedition was directed in 533, the subsequent campaigns of the Byzantine army in Africa, from after the surrender of Gelimer in March 534 until the first appearance of the Arabs in Byzantium in 647, were to be conducted principally against the Moors, and it was the Moorish threat alone that was responsible for the system of fortifications erected in Byzantine Africa during the sixth century. Before outlining the course of those campaigns, therefore, mention should first be made of the three principal social and political groups settled in the part of Africa that was reconquered by Justinian's generals.

The Vandals

The Vandals under Gaiseric, taking advantage of the temporary disarray in the Roman military establishment caused by the breach between Boniface, the comes Africae, and the empress Galla Placidia, had crossed from Spain into Africa in May 429. In February 435, they were recognized by Valentinian III as foederati in the part of Roman Africa that they then occupied. In practice, however, Gaiseric held sovereign power at this time over an area of northern Mauritania Sitifensis and Numidia stretching from Sitifis to Calama, with his capital at Hippo Regius (*5). In October 439, Carthage itself was occupied, apparently without even a fight, and by a treaty of 442 the emperor recognized Vandal sovereignty over Proconsularis, Byzantium, Tripolitania and the

II.1.

eastern part of Numidia. In return, the remaining part of Numidia and Mauritania Sitifensis reverted to the emperor, but there is no further record of imperial involvement in these areas after Valentinian III's assassination in 455 (*6). At the time of Gaiseric's death in 477, Vandal conquests in the western Mediterranean, made possible by the acquisition of the Roman grain fleet at Carthage and of the shipyards of Missua, had included the Balearic Islands, Corsica, Sardinia, Sicily and a number of towns along the North African coast from Septem to Oea (*7). As Courtois has shown, unlike their plundering raids, such as that on Rome in June 455 or those on Greece in 474, the Vandals' annexation of the western Mediterranean islands was no caprice but part of a carefully laid plan to control the granaries and the sea-lanes of the western Mediterranean (*8). With the exception of Sicily, which was held by the Ostrogoths (*9), this seaborne empire was still intact at the time that Justinian was planning his campaigns in the west.

In Africa itself, the area of Vandal settlement was confined mainly to Proconsularis and northern Byzacium. Such at least is the impression given by the geographical distribution of epigraphic and documentary evidence (*10), which also bears out the statement of Victor Vitensis that Gaiseric settled his army on lands confiscated from Roman landowners in Proconsularis, while retaining for himself the lands confiscated in Byzacium, Numidia, Gaetulia and Abaritana (*11). The number of the Vandals was small, hence the need to prevent their dispersion (*12). A total of 80,000, senes, iuuenes, paruuli, serui uel domini and including some Alans, Sueui and Goths, had crossed the straits with Gaiseric (*13), and although this number may be expected to have increased before the disappearance of the Vandals from history a century later it

II.1.

can scarcely have been more than about 100,000 at the time of the Byzantine reconquest (*14). Compared to this, the total population of Vandal Africa may have been as high as two millions (*15). It would seem likely, therefore, that not only were the Vandals always in a minority, but that they were also in the process of assimilation at the time of the Byzantine reconquest (*16).

The Vandals who settled in Africa under Gaiseric were organized into at least eighty divisions, containing a theoretical thousand souls and commanded by a ¹χιλιάρχ^{ος} or millenarius (*17). Each division could probably have provided from 200 to 250 men for the royal army when called upon to do so (*18). In this way Gaiseric would have had at his command a force of some 20,000-25,000 men (*19). Although in 533 Gelimer was able to draw some support from his Moorish allies (*20), it is unlikely that Belisarius's success would have been so complete had the fighting strength of the Vandals at that time been more than about 25,000 men (*21).

The Vandal army was composed principally, if not entirely, of cavalry (*22). Procopius writes that the Vandals fought only on horseback with swords and spears and that they used neither javelins nor bows and arrows (*23). This conspectus is generally supported by other contemporary sources, though it appears that the Vandals did have the use of the bow and of poisoned arrows (*24). Their horsemen wore coats of mail (*25) and rode into battle with banners decorated with fantastic animals (*26). Since the defeats inflicted on Boniface in 429 (*27), however, the Roman army had had little to do with the Vandals. An army sent by the emperor Leo in 470 and commanded by Heraclius of Edessa and Marsus the Isaurian disembarked in Tripolitania, but was withdrawn before making contact with the main force of the enemy (*28). In 465, and

II.1.

probably in the following year, count Marcellinus had carried out a successful campaign against the Vandals in Sicily and Sardinia, retrieving both islands for the emperor (*29). But as his fleet edged its way across the Mediterranean in 533, Belisarius was apparently ignorant of the fighting qualities of the Vandals (*30).

More redoubtable than their army, however, to the Byzantine imagination at least, was the Vandals' skill as seamen, a reputation enhanced by their destruction of two Roman seaborne expeditions, in 460 and 468, and by their raids carried out along the coasts of Illyricum and Greece from the 470s onwards (*31). In 460, a force of some 300 vessels, brought together along the coast of Spain between Carthago Spataria (Cartagena) and Ilici (Elche) to transport the army of the emperor Marjorian to Africa, had been seized by the Vandals before the expedition could even get under way (*32); and in 468, a fleet of perhaps as many as 1,100 ships under the command of Basiliscus had been destroyed off Cap Bon by fire-ships and by ramming (*33). The Vandals' abilities as seamen may have been overestimated. There is, for example, no evidence that they ever possessed warships (*34). However, the Byzantine soldiers' fear of an encounter at sea was to have a decisive influence on the shaping of Belisarius's strategy in the campaign of 533 (*35).

The Roman Africans

On a number of occasions during the campaign of reconquest Belisarius developed the theme of liberation of the Roman Africans, or Libyans (Λιβυοί), from the Vandal yoke, and the same argument was soon to appear in official documents (*36). The support of the local Roman population, however, could not be taken for granted. At Caput Vada, where the Byzantine army landed, Belisarius rebuked his troops for taking fruit from the trees of local proprietors through fear that such actions might cause

II.1.

them to side with the Vandals against him (*37). Neither was enthusiasm for the 'liberators' very apparent on the part of the Roman African population. A number of towns, including Carthage, were delivered up by the local notables, who at Sullectum included the priest (*38); but even at Carthage Belisarius was compelled to execute one of the inhabitants for treason, so that others might be dissuaded from collaborating with the Vandals (*39). At a later date, the disloyalty of some Roman African farmers in Proconsularis became all too apparent, when they presented the heads of camp followers of the Byzantine army to the Vandal king and when some of the inhabitants of an unnamed locality two days' journey from Carthage informed Gelimer of the presence of twenty-two bucellarii under Diogenes, who in an ensuing ambush escaped leaving two of their number dead (*40).

It is evident, therefore, that not all classes of Roman Africans were keen for the reinstatement of the imperial régime. One reason for this was that many members of the lower classes of Roman African society appear to have been better off under the Vandals than they or their fathers had been under the Romans. Although the Roman system of taxation was maintained in some form under the Vandals, the needs for revenue of a barbarian kingdom were not so great as those of the late Roman empire had been and such taxes as were levied would have been spent internally. It also appears likely that the system for collecting taxes had at least partially broken down by the time of the reconquest, since Procopius writes that the tax records had been lost and that when Justinian ordered a new survey to be carried out the new assessments drew an angry response from the Africans (*41). The management of many estates had probably become laxer when the incentive to maintain high

II.1.

levels of production had been removed. The laws that tied a colonus to his holding, for example, had been less rigorously applied (*42), and the Albertini Tablets suggest that some Mancian tenants had been able to add to their hereditary holdings during the absence of the possessor (*43).

Those who had suffered most under the Vandals were undoubtedly the greater landowners. The settlement of the Vandal army in Proconsularis and the establishment of royal domains in Byzacium and Numidia had entailed the appropriation of a large number of estates (*44). Since the lands held by Vandals were exempt from taxation, a further strain was put on such of the Roman landlords as had retained their lands (*45). The effects of these depredations under Gaiseric can be seen in a number of sources. In 451, Valentinian III made donations of land from the imperial domains in Numidia and Mauritania to dispossessed landowners from Proconsularis and Byzacium (*46). Other landlords fled to Italy or Syria (*47). Some, however, remained in Africa and even prospered. Victorinus of Hadrumentum, for example, the proconsul of Carthage in 484, was, according to Victor Vitensis, the wealthiest man in Africa (*48). Others still were able to regain their former possessions or inheritance at a later date. Such, for example, was the story of the family of Saint Fulgentius of Ruspe, whose father Claudius returned from Italy at a date before 462 to receive back his inheritance in Byzacium, per auctoritatem regiam (*49). Courtois suggests that the same may have been the case for the domain of Fl. Geminus Catullinus mentioned in the Albertini Tablets (*50).

For some members of the landowning class there would therefore have been little material incentive to welcome Belisarius's army openly, and

II.1.

even those who did cherish the hope that Africa would once more be part of the Roman empire would have felt disinclined to demonstrate their loyalty to the emperor openly for fear of reprisals if the campaign ended in failure. It was therefore the dispossessed and exiled landowners, who had nothing left to lose, who formed the most vociferous section of the lobby urging Justinian to intervene in Africa (*51).

There was another reason, however, apart from the material one, for the Roman African aristocracy in general to desire the restoration of the imperial administration. As Courtois has shown, in the writings of Victor Vitensis it is often difficult to separate the misfortunes of the Roman aristocracy under the Vandals from those of the catholic church; in effect, the catholic hierarchy's resistance in the face of persecution was strengthened by their conviction that the cause of African catholics was indissolubly bound up with that of romanitas (*52). It was natural, therefore, that, during the period of religious strife in Africa in the fifth and sixth centuries, the African catholics should have looked to the emperor for support (*53). Whether their appeals had any decisive influence on Justinian's decision to intervene in Africa is uncertain. Once the course was set, however, the catholic source of support was given encouragement by Byzantine propaganda. Victor Tonnensis, for example, repeats the story that Justinian was inspired to send an expedition to Africa by the appearance to him in a dream of the African martyr, Laetus, the bishop of Nepta who had been put to death in 484 (*54); and Procopius stresses the fact that Carthage fell to Belisarius on the day following the feast of Saint Cyprian (*55).

The attitude of Roman Africans to Belisarius's expedition was therefore to be unpredictable. Those who, for ideological or materialistic

II.1.

reasons, wanted a return to the Roman system came for the most part from the landowning class. The cultores, on the other hand, may have had less desire for a return to the oppressive ancien régime. Belisarius was careful, therefore, to give the Roman Africans no cause for antagonism; this entailed keeping a tight rein on his troops' natural desire to enjoy the fruits of the conquest that had been made possible by the force of their arms. After the Vandal kingdom had been overthrown, however, the African population was readier to unite with the imperial forces to defeat the Moors who threatened their livelihood and the peace of the provinces (*56). It was from amongst them that Justinian hoped to be able to recruit the limitanei who were intended to play an important part in the defence of Byzantine Africa (*57).

The Moors

When confronted by the gallery of monuments to Roman civilization, literary and intellectual, artistic and architectural, surviving from Roman Africa, it is easy to forget that Africa was one of the least thoroughly Romanized of all the western dioceses of the later Roman empire (*58). Whilst the surface area of the Maghrib is about 900,000 km², the Roman provinces of Africa (including Tingitania) at their period of greatest extent under the Severi covered an area of only about 350,000 km²; this was reduced under Diocletian to about 240,000 km² as a result of abandonments which included the major part of Mauritania Tingitania (*59). Even within these theoretical boundaries, however, native tribes continued to exist, speaking their own languages, worshipping their own gods (*60) and preserving their own tribal structures to a greater or lesser extent within the framework of the Roman administration (*61). The most important areas of this kind of native settlement corresponded naturally enough with those of least Romanization.

II.1.

As far as Byzantine Africa was concerned, the most significant of these were the mountain regions of the Kabylies, the Hodna, the monts de Bel-
ezma, the Aurès, the Nementcha, the Tunisian Dorsal, the Kroumirie and
the area of Tripolitania lying south of the Djebel Nefuza scarp (*62).

In the fourth century, the semi-independence of native peoples
living on the fringes of the areas of Roman, or Romanized, settlement
was guaranteed in return for their undertaking to keep the peace in the
frontier regions and to defend them from Moorish attacks launched from
further afield. As gentiles, under the command of their own native
officers who were designated by the Roman titles of praefectus or cent-
enarius, they were organized into divisions denoted by the geographical
name of the part of the limes to which they belonged; these divisions
were commanded in turn by praepositi limitum (*63). Such a system
could last only as long as the Romans had a regular army of sufficient
strength to restore order when difficulties arose. The disputed inher-
itance of the Moorish chief Nubel, for example, whom Ammianus describes
as uelut regulus per nationes Mauricas potentissimus, was the immediate
cause of the revolt of Firmus under Valentinian (*64); and in 363 the
nomadic Austuriani raided Sabratha and the coastal towns of Tripolitania
with the apparent connivance of the gentiles of the frontier (*65).
The lapse of authority under the Vandals was therefore to have disastr-
ous consequences. As Courtois writes, 'Du point de vue de l'histoire
africaine, l'événement capital du siècle qui s'étend de l'invasion ger-
manique à la reconquête byzantine, n'est peut-être pas l'intervention
vandale elle-même mais l'espèce de résurrection du monde berbère qui en
a été à certains égards la conséquence' (*66).

In Mauritania Tingitania, the development of the Moorish chiefdom

II.1.

of Oranie began soon after the Roman withdrawal under Diocletian (*67). The first evidence for its existence, however, is an inscription from Altaua (Lamorcière) recording the construction of a castrum under Masuna, rex gentium Maurorum et Romanorum (*68). Two hundred kilometres east of Altaua, two groups of massive stone burial monuments (djedars), one at Ternaten and the other near to Aïn el-Kebour on the Djebel Lakhdar, have been identified as the royal tombs of a second chiefdom, which in the late fifth and sixth centuries was Christian and covered the area of the Ouarensis (*69). The ruler of this area in the 530s was Mastinas, or Mastigas, who levied a tribute from the whole of Mauritania Caesar-iensis with the sole exception of Caesarea itself, which was held by the Byzantines (*70).

Further east again lay the Moorish chiefdom ruled over in 535 by Ortaias, at that time an ally of Solomon (*71). Procopius states that it stretched as far as the desert and also shared a border with the Aurasian chiefdom of Iaudas, suggesting that it encompassed the mountains of the Hodna and some of the areas further east (*72). Ortaias is mentioned again, in 537, as a spectator of the contest between Germanus and the rebel army of Stotzas (*73). An inscription from Arris, on the Oued el-Abiod in the Aurès, indicates, following Courtois's interpretation, that the Moorish leader Masties had been made a dux by count Boniface in 428 or 429, on the eve of the Vandal invasion, and that in around 455/456, after the withdrawal of Roman authority from the region, Masties had taken the title of imperator. Masties would appear to have been succeeded by Ortaias (who appears as Vartaia in the text) in 496 (*74). Sometime after 484, the ruling house became Christian and although, as mentioned above, Ortaias is found as an ally of Solomon in

II.1.

535, the existence of four Byzantine forts, Zabi, Tubunae, Thamallula and Zarai, surrounding the Hodna massif suggests that the region was soon incorporated into the Byzantine province of Mauritania Sitifensis (*75).

The Aurès was ruled in 535 by Iaudas, who could command a force of 30,000 men (*76). It had theoretically formed part of the Vandal kingdom since 442 (*77), but the Moors of the region had declared themselves independent during the reign of Huneric (477-484) (*78). According to Procopius before 535, the Roman cities of Thamugadi and Bagai, lying in the plain to the north of the Aurès, had been devastated and abandoned by their population (*79). In 535, Iaudas was operating as far north as Tigisi, as well as impinging westwards on the region controlled by Ortaias (*80).

A more serious threat to the security of the Vandal kingdom and of its Byzantine successor was posed by the establishment, around 510, of a Moorish chiefdom or confederacy situated perhaps in the Dorsal region of Byzacium under Guenfan, chief of the Frexes, who was succeeded before 517 by his son Antalas (*81). The devastation caused by the raids of these Moors on the rich but vulnerable areas of the Roman provinces of Byzacium and Proconsularis was serious. Around 497/498, Saint Fulgentius was forced to abandon his monastery near Praesidium Dirolele, in the region of Capsa, to move north to a safer locality (*82). By the early sixth century, raids were reaching the coastal cities of Sullectum (*83), Hadrumentum (*84) and, a few days after Saint Fulgentius's death in 527, Ruspe (*85). Under Hilderic, the defeat of a Vandal army in Byzacium was the prelude to the deposition of the king in 530 (*86).

In 544, the Moors of Antalas were joined by camel-riding nomads

II.1.

from Tripolitania (*87), and two years later the same Tripolitanian tribes under Cusina are found allied with Iaudas (*88). Most of the nomads seem to have been from the tribes of the Leuathae and Austuriana, inhabitants of Tripolitania (*89). The first time that Tripolitanian nomads appeared in Byzacium was probably under Thrasamund, before 523, when, led by Cabaon, they had inflicted a heavy defeat on a Vandal army (*90). Although on the eve of the Byzantine reconquest Oea was still a Vandal possession, Lepcis Magna and Sabratha had been severely devastated by the Moors of the surrounding region (*91).

Other Moorish 'kingdoms' are attested within the area covered by the Vandal kingdom after 442. Victor Vitensis refers to the 'kingdom' of Capsus (Gafsa), to which Martinianus and his brother were exiled in 477 (*92). The region ruled by Massonas, whom Procopius mentions as an ally of the Byzantines against Iaudas in 535, is situated by Courtois around the Nementcha mountains (*93). The list of other tribal names mentioned in sixth-century sources is a long one, but many of them were no more than tribal sub-groupings of the chiefdoms or petty kingdoms described above (*94). Some of the smaller tribes, however, are located in Proconsularis itself: examples include the Moors of mount Pappua, in the Kroumirie, with whom Gelimer took refuge in 533 (*95), and a tribe from the environs of Curubis (Korbous) in Cap Bon, which joined in the revolt begun by Antalas in 544 (*96).

Of the Moors' fighting methods Procopius and Corippus provide a number of details, though almost invariably their descriptions apply to the nomads rather than to the sedentary mountain folk (*97). The Moors fought on foot or on horseback with swords and small circular shields; besides these, each man carried two short javelins for throwing (*98).

II.1.

They entered battle lightly clad in an armless tunic and with a piece of linen wrapped around their head (*99). Their tactics were those of guerrilla fighters, relying on rapid attacks and withdrawals into the rugged wastes of mountain or desert. When the nomad Leuathae under Cabaon defeated Thrasamund's army, however, they followed a procedure for pitched battle that was to be repeated at *Mamma in 534 and in the battle between John Troglitas and Ierna in 546 (*100). They formed a circular palisaded camp, in the centre of which they placed the women, children and baggage; around the circle they drew up the camels, twelve deep, and the defenders took up position between them. When the Vandal cavalry attacked, their horses shied at the smell of the camels; then under a rain of javelins, they fell back in confusion and the Moors sallied out to finish off the survivors (*101).

The Vandals, it appears, had continued the Roman practice of investing the rulers of the Moors with the symbols of their office. These were, 'a staff of silver covered with gold, and a silver cap, - not covering the whole head, but like a crown and held in place on all sides by bands of silver, - a kind of white cloak gathered by a golden brooch on the right shoulder in the form of a Thessalian cape, and a white tunic with embroidery, and a gilded boot' (*102). After the battle of ad Decimum, the Moors of Mauritania, Numidia and Byzacium sent envoys to Belisarius asking to receive these symbols, with which requests Belisarius complied, disbursing at the same time large sums of money (*103).

During the campaign of 533-534, only a few Moors actively supported Gelimer; the majority awaited the outcome of the contest before committing themselves to the winning party (*104). Byzantine relations with the Moors during the sixth and seventh centuries were conducted on

II.1-2.

much the same lines as they had been in the fourth (*105). Two important things had changed, however. First, the weakness of imperial and then of Vandal control in the fifth century and early in the sixth had permitted the development of large Moorish chiefdoms, some of them located dangerously near to the principal areas of Romanized settlement. Secondly, in the early sixth century the nomads from Tripolitania had made their appearance in the south of Byzacium.

2. The Vandal War (A.D. 533-534).

The Vandal king Hilderic was deposed on 15 June 530, a short while after the defeat of his army at the hands of the Moors of Antalas. He was replaced by Gelimer, a great-grandson of Gaiseric and a fearless and able warrior (*1). The accession of Hilderic in 523 might have appeared to Roman Africans and catholics as the dawn of a new era. Their bishops returned from their exile in Sardinia, freedom of worship was granted and closer ties were forged with the emperor (*2). Hilderic himself was a grandson of Valentinian III and had probably spent a number of years in Constantinople (*3). It is also likely to have been his leanings towards Byzantium rather than his failings as a military leader that provoked the revolt against him (*4); he was not, after all, the first Vandal ruler to have suffered reverses from the Moors. Seen from the Byzantine point of view, however, it would have been clear that no attempt at re-establishing imperial control of whatever form over Africa and the western Mediterranean was now likely to succeed by peaceful means alone. On the other hand, Hilderic's reign had raised the hopes of the African catholics and of the eastern merchants trading with the west, and these two groups of people came to form an influential lobby

II.2.

in urging the emperor to intervene (*5). Hilderic's pro-Byzantine policy had also led to a breach in relations between the Vandals and the Ostrogoths. In 526, Thrasamund's widow and Theodoric's sister, Amalfrida, had become implicated in a plot and was confined to prison, where she died; her 5,000-strong Gothic guard was also put to death (*6). Theodoric was in no position to avenge her death, and in any case himself died soon afterwards (*7). If Justinian had been looking for an opportunity to intervene in the west, the opportunity had now presented itself with the usurpation of power by Gelimer.

Subsequent events suggest that Justinian had indeed been awaiting such a moment, though it is also possible that he had initially hoped to woo Vandal allegiance by peaceful means, thereby placing himself in a strong position from which to influence events in Italy (*8). It is well known that Justinian cherished the pious hope of re-establishing the Roman empire in the west (*9). It is also clear that in Constantinople it was never considered practicable to annexe the Vandal kingdom while leaving Italy untouched; it was in fact this consideration, rather than the military problem of defeating the Vandals and Moors, that caused Justinian to hesitate before finally committing himself to the projected expedition (*10). But if the Vandal war was regarded at the time as a prelude to a larger-scale western campaign, and accepting that such a campaign was thought desirable, there were important practical reasons besides for dealing with the Vandals first of all. The part of the Vandal kingdom that was to prove most valuable to the emperor, just as it had done to Gaiseric, was what Courtois has called the 'empire du blé', comprising the three granaries of the western Mediterranean, Africa Proconsularis (and parts of Byzantium), Sardinia and Sicily (*11).

II.2.

Sicily was still held by the Ostrogoths in 533, but was the first part of their kingdom to fall to Belisarius in 535 (*12). Without command of the seaways (including the African grain fleet) and the strategic and logistic support provided by the Mediterranean islands, the long and tedious campaigns in Italy would not have been possible. With this hindsight, it is difficult to regard the invasion of Africa in 533 as the result of opportunism, as Procopius and some modern writers seem to suggest (*13). More probably it was the logical culmination of Byzantine diplomacy, initiated during the latter years of the reign of Justin, when the question of what was to become of Italy when Theodoric died was one of pressing importance (*14).

Justinian reacted promptly to the news of Hilderic's deposition by immediately demanding his release (*15); but his remonstrances that the Vandal laws of succession were being infringed fell on deaf ears (*16). Already by the end of 531, however, negotiations were under way with the Persians and the treaty known as the 'Eternal Peace' was concluded in September, to take effect from the spring of 533 (*17). Meanwhile an expedition was being gathered together (*18).

The force was to be commanded by Belisarius, the magister militum Orientis (*19). His staff included Archelaus, a former praetorian prefect and prefect of Illyricum, who was to serve as prefect of the army and later as the first prefect of Africa (*20). The historian Procopius joined the expedition as Belisarius's assessor (κάρτεδρος) (*21) and the eunuch Solomon, one of Belisarius's bucellarii and a commander of foederati, acted as domesticus (*22). Belisarius was also accompanied by his wife Antonina (*23).

The land army numbered about 18,000 men. It included five comp-

II.2.

anies of regular infantry (pedites comitatenses), numbering 10,000 men, commanded by John of Dyrrachium. These were supported by four numeri (ἄριθμοι, κατάλογοι) of regular cavalry (equites comitatenses), numbering 1,500, and nine τάγματα of foederati, numbering 3,500 (*24). There were also three companies of allied cavalry (σύνμαχοι), serving under their own leaders: one of Heruls, numbering 400, and two of Huns of the tribe of the Massegetae, numbering 600. The latter were mounted bowmen, an élite arm of the Byzantine army in the sixth century. In addition to all these came Belisarius's own bucellarii; their number is uncertain, but was at least 1,100 and probably more than 2,000 (*25). The expedition was to be carried in 500 transport ships of between 55 and 930 tons, manned by 30,000 sailors from Egypt, Ionia and Cilicia. Mindful of the disaster suffered by Basiliscus in 468, when his armada of sailing vessels had been unable to avoid the fire-ships sent against it, Justinian provided for Belisarius's fleet a convoy of 92 warships (δρεμων^{ες}), manned by 2,000 oarsmen from Byzantium; these men could also fight if called upon to do so. The whole fleet was put under the command of Calonymus of Alexandria.

Although the paper-strength of the Byzantine army, excluding the 2,000 rowers, was about 18,000 men, the number of those who disembarked at Caput Vada would have been somewhat less. Five hundred men or more had died during the voyage at Methone, and 400 foederati had been sent under Cyril to Sardinia; furthermore, Belisarius left a guard of five bowmen in each ship when the army disembarked and these totalling some 2,500, together with the prefect and some others, only disembarked after the decisive battle of ad Decimum. Belisarius's land army would therefore have numbered only about 7,500 each of infantry and cavalry (*26).

II.2.

Against this the Vandals could in theory raise a force of about 20,000, all of whom would have been cavalry (*27). Although they may have hoped to draw support from the Moors, as shown above, the majority of the Moors and some of the Roman Africans awaited the outcome of the campaign before committing themselves to either cause. Though in total the Vandals could dispose of a slight numerical advantage, but one which in terms of cavalry alone would have been considerable, certain factors weighed against them. The first was that they were totally unprepared for the blow when it came, and their forces were widely dispersed. A successful revolt in Tripolitania, in 533, led by a Roman African, Pudentius, had already received Byzantine help, probably from Egypt as in 470 (*28). Before Gelimer could take action on this quarter, however, his attention was diverted to Sardinia, where the Gothic slave Godas, to whom he had entrusted the island, rebelled against him and asked for imperial help (*29). Five thousand men under Tata, Gelimer's brother, with 120 ships, representing in all probability the major part of the Vandal fleet, were dispatched to retake the island, and although they succeeded in achieving this they were thereby removed from the more important theatre in Africa until after the fall of Carthage to Belisarius (*30). Gelimer's forces in Africa would therefore have numbered about 15,000 cavalry, outnumbering the Byzantine cavalry by two to one, but they were scattered between Carthage and Hermiana, where the king was spending the late summer oblivious to the danger approaching slowly across the sea (*31).

The Byzantine fleet left the Bosphorus with patriarchal blessing on around 20 June, 533 (*32), and sailed to Heracleia-Perinthus on the sea of Marmora to take on board some horses from the imperial estates in

II.2.

Thrace (*33). After five days, it proceeded to Abydus on the Asian side of the Dardanelles (*34), where four days were spent, before continuing to Sigeium in the Troad (*35). It then made its way to Malea (*36), Caenopolis (Taenarum) (*37) and Methone (*38), all three ports in the Peloponnese. At Methone the expedition met up with two τάγματα of federate cavalry, under Valerian and Martin, which had gone on ahead (*39); here the army disembarked and during its stay, the length of which is unknown, five hundred men died from eating bread that had putrefied through having been baked only once instead of twice in the normal manner for soldiers' rations (*40). From Methone the fleet sailed on to the island of Zachynthus (*41) in the Ionian sea, to take on water before crossing the Adriatic to the north-eastern coast of Sicily, which it reached sixteen days later (*42).

It was only at this point that Belisarius received details of the disposition of the enemy forces. Procopius himself, sent to Syracuse to gather information under the pretext of buying supplies, met up with a merchant friend whose domestic had been in Carthage only three days before. From this man Procopius learnt not only that the Vandal fleet was away in Sardinia, but also that Carthage itself lay open to attack, since the king, Gelimer, was at that time at Hermiana (*43). Belisarius was meanwhile reaping the benefits of Justinian's diplomatic exchanges with the Ostrogothic court. The regent Amalsuntha granted the expedition a free market in Sicily, thereby enabling Belisarius not only to replenish the army's supplies of food, but also to acquire more cavalry horses (*44). Procopius rejoined the fleet at Caucana on the southern coast (*45), and the expedition proceeded swiftly to Malta and Gozo, and thence with a strong east wind to Caput Vada (Ras Kaboudia), the eastern-

II.2.

most tip of Tunisia between Cap Bon and the gulf of Gabès (*46).

The fleet anchored off Caput Vada on about 27 August (*47). Two alternative courses of action were now open to the commander-in-chief. The first, which was favoured by Archelaus, was to proceed straightway by sea to Carthage and take the city before the Vandals had time to prepare for its defence. Aware of the soldiers' natural apprehension of a sea battle, however, the problems of landing on a defended shore and of the unpredictable hazards of wind and tide, Belisarius opted for the second course, namely to disembark forthwith and to proceed to Carthage by land (*48). The beachhead was defended by a stockade and ditch, protected by a line of pointed stakes (*49), while, still aware of the possible threat from seaward, Belisarius drew the ships into a semi-circle protected by the warships, and placed a guard of five bowmen on each of them (*50).

Procopius writes that during the march from Caput Vada to Carthage (see Map2) the army covered 80 stadia, that is to say probably somewhat over 10 Roman miles (16.90 km.), each day (*51). This may appear rather slow, even allowing for the fact that the rate of march would have been held up by the infantry. However, Belisarius was eager to defeat the Vandals in a pitched battle in which both infantry and cavalry would play a part (*52); against this consideration reaching Carthage was probably of secondary importance. The order of march was designed so that the strongest section of the army was concentrated in the rear, which was the quarter upon which Gelimer's attack was expected to fall. As far as Grassa, the right flank was protected by the sea, and up to that point the army was able to maintain daily contact with the fleet. The vanguard was formed by 300 of Belisarius's bucellarii under John the

II.2.

Armenian, who was ordered to keep twenty stadia (4.20 km.) ahead of the main army. The left flank was covered by the 600 mounted archers of the Massegatae, commanded by Sinnion and Balas, who were also to remain twenty stadia distant from the main army. In the rear came Belisarius himself with the pick of the troops, which probably included the remaining bucellarii and some of the other cavalry (*55).

Because of the vulnerability of the army to a surprise attack by cavalry, wherever possible the nights were spent in towns along the route or in fortified camps (*54). The first town to be occupied was Sullectum, which lay a day's journey from Caput Vada on the road to Carthage (*55). At dusk on the day after the landing (? 28 Aug.) a group of bucellarii under Boriades took up position in the bed of a wadi near to the town. The following morning (? 29 Aug.), as soon as the gates were opened to allow the country folk in, they entered and received the town's surrender from the willing hands of the priest and notables (*56). On the same day, the overseer of the cursus publicus defected to the Byzantines and delivered up the horses from the government stable (*57). Allowing for the time taken for news of the fall of Sullectum to have reached Caput Vada and for the slow rate of march of the army, it is unlikely that the town would have been occupied before the afternoon of (?) 30 August (*58). Another two days would have taken the army to Leptis Minus (? 1 Sept.) and two more to Hadrumentum (? 3 Sept.) (*59). The next location mentioned by Procopius is Grassa, where the Vandal king had a villa with a park full of fruit trees. Grassa was 350 stadia (74 km.) from Carthage and was the point at which the army had to break contact with the fleet, which had thereafter to circumnavigate Cap Bon (*60). These topographical indications suggest that

II.2.

it lay in the vicinity of Hammamet, five days' journey from Hadrumentum (*61). It would therefore have been on about 8 September that the first encounter with the Vandals took place.

Gelimer had learned of the Byzantine landing while still at Hermiana. Although the exact location of Hermiana is uncertain, Gelimer could not have received the news until at least four days after the event (? 31 Aug.) (*62). Though Gelimer had been taken by surprise, his reaction was swift and there is no doubt that the plan that he put into operation might easily have succeeded. He immediately sent word to his brother Ammata in Carthage to dispose of Hilderic and his followers, thereby removing the legitimate casus belli and dealing a blow to Byzantine propaganda. Ammata was also to prepare to take up a position at ad Decimum, 70 stadia (14.80 km.) from Carthage on the line of Belisarius's march, where he hoped to trap the Byzantine army in a natural defile between two Vandal forces. Gelimer meanwhile proceeded with a strong force of cavalry to shadow Belisarius. The relatively slow rate of progress of the latter enabled Gelimer's cavalry to catch up with the Byzantine rear-guard by the time that it had reached Grassa, where the first skirmishing occurred (8 Sept.) (*63).

The Byzantine army reached ad Decimum on 13 September, on the fourth day after setting out from Grassa (*64). During the march it had been followed at a respectful distance by Gelimer. The location of ad Decimum is not known with certainty. Procopius's statement that it was a suburb of Carthage some 70 stadia from the city suggests that it was, or had been, a road-station lying at the tenth milestone (*65). There remains uncertainty, however, as to which of the roads emanating from Carthage it stood on. The Byzantine army probably advanced from Grassa

II.2.

along the road which reached the coast at ad Aquas on the bay of Tunis and then followed it round to Carthage by way of the ferry crossing at Maxula-Rades. However, Belisarius cannot have hoped to take his army across the ferry. It seems likely, therefore, that he would have departed from this route at Grombalia and have cut westwards, to the south of the Djebel Zaïam and Djebel bou Kournine, to reach Carthage around the west side of the lake of Tunis and thence up the main Theueste-Carthage road. A point measured 10 Roman miles (from Byrsa) along this road would fall somewhere near Bab Souïka in the northern suburbs of modern Tunis, directly on the proposed line of march. The identification of ad Decimum with such a position also makes good sense of the other topographical details supplied by Procopius. The narrow defile would be the strip of land, 2.5 km. wide, upon which Tunis now stands, between the lake of Tunis and the Sebkrat es-Sedjoui. The latter is a salt lake, which partially dries out during the summer months; it may be identified with Πεδίον Ἀλῶν of Procopius's description, which lay 40 stadia from ad Decimum on the left of the road as it approached Carthage and was a marshy area where salt was extracted (*66).

As the Byzantine army approached ad Decimum, Gelimer sent Gibamund, his brother, out on the left flank with 2,000 horsemen, either across or round one side of the sebkra, so that when Belisarius reached the Theueste road he would have been trapped between Ammata's forces approaching from Carthage, Gibamund's from the other direction and Gelimer himself from the rear (*67). The difficulty of coordinating the encirclement, however, and Belisarius's precaution in maintaining a widely dispersed vanguard and flanking force were the main reasons for the plan's failure, though the result was not to be a foregone conclusion (*68).

II.2.

The Byzantine vanguard under John the Armenian, at this time some 35 stadia (7.40 km.) in front of the main force, arrived at ad Decimum at about mid-day and ran into a small force under Ammata, who had arrived on the field earlier than Gelimer had intended. Ammata, however, had evidently considered the Byzantine army to be still far away, since his men were quite unprepared and his main force was still approaching from Carthage, not in one body but in groups of twenty to thirty men at a time. In a short engagement Ammata himself was killed, having killed twelve of John's men, and the remaining Vandals turned and fled back towards Carthage, carrying with them the late-comers whom they encountered along the route. John's men pursued them as far as the gates of the city, killing all those whom they overtook, and played no further part in the battle that day (*69). Meanwhile Gibamund and his 2,000 horsemen were splashing through the salt lake on their outflanking movement when they ran into the Massegatae, who were protecting the left flank of the Byzantine army. In the ensuing battle the 600 Hun mounted archers totally destroyed the Vandal force (*70).

The two commanders-in-chief knew nothing as yet of the two engagements which had already destroyed Gelimer's plan of encirclement. Belisarius was nevertheless expecting an encounter with the enemy in the vicinity of Carthage. Until he knew the enemy dispositions, however, he felt it imprudent to commit the infantry, who in any case would have restricted his mobility. At mid-day, therefore, 35 stadia (7.40 km.) before reaching ad Decimum, he left the infantry together with his wife in a strongly defended camp and advanced with the cavalry, placing the federates in front of the line of march and himself following them

II.2.

with the regulars and with his bucellarii. Evidently he still considered that the principal threat lay to his rear (*71). However, by this time, Gelimer was in fact advancing on a course parallel to his own between him and the line of march of the Massegetae on the left flank; owing to the hilly terrain, however, neither side was as yet aware of this (*72).

When the foederati reached ad Decimum, late in the afternoon, they saw the battlefield and learned from the inhabitants of the engagement that had taken place earlier. While they were still waiting for further instructions from Belisarius, however, Gelimer and the main Vandal army came into view to the south. Being heavily outnumbered, the foederati made for the most defensible piece of high ground in the vicinity, but were unable to hold it for long and retreated headlong in the direction from which Belisarius was approaching. Seven stadia (1.48 km.) from ad Decimum, they met with Uliaris and 600 of Belisarius's bucellarii; but he, instead of checking their flight and preparing to put up a stand, joined with them in fleeing back towards Belisarius. Procopius considers that at this point Gelimer would have won the battle, either by pursuing the fleeing Byzantine cavalry or by making straight for Carthage, where he could have re-formed his army. Instead he abandoned the high ground that he had captured and spent the rest of the afternoon weeping over his dead brother's body and seeing to its burial. This respite gave Belisarius the time that he needed to regroup his cavalry and to deliver a well planned counter attack. The Vandals somewhat surprisingly were taken unawares and fled headlong down the main road towards Bulla Regia and Numidia (*73).

The Byzantine cavalry spent the night of 13 September at ad Decimum,

II.2.

and on the following day, when the infantry had come up from its camp of the day before, the whole army moved forward to the gates of Carthage, which it reached later that evening. Because he still feared the possibility of a surprise attack, Belisarius did not enter Carthage that night, however, even though the inhabitants opened the gates and displayed lights. The fleet, meanwhile, had entered the anchorage of Stagnum which can probably be identified with the Sebkrat er-Riada (*74); but a handful of ships, together with Calonymus, entered the port (Mandracium) in flagrant disobedience to Belisarius's commands and plundered some quay-side properties. On 15 September, the day after the feast of Saint Cyprian of Carthage, the remaining troops were disembarked and the whole army entered the city in an orderly fashion (*75).

Thus deprived of his capital, Gelimer regrouped his remaining forces in the plain south of Bulla Regia, to which he had fled after the battle of ad Decimum (*76). Here he was joined by a few Moorish allies and by his brother Tata, whom he had hastily summoned from Sardinia with his 5,000 men (*77). Having concentrated his forces, Gelimer marched on Carthage and, after tearing down part of the aqueduct which supplied the city with water from Zaghouan, he imposed an ineffectual blockade. At the same time, he attempted to draw support from some of the Roman inhabitants of Carthage and from Belisarius's Arian Hun allies; with the latter he achieved some success, so that their loyalty was in doubt throughout the following campaign (*78). Belisarius had, in the meantime, received the submission of the Moors of Byzacium, Numidia and Mauritania, though their allegiance did not as yet manifest itself in the form of military help (*79). He was reluctant to leave Carthage, however, before its defences had been put in order. The city wall,

II.2.

built by Theodosius II in 425, had been neglected by the Vandals and required rebuilding in a number of places; besides repairing its masonry, Belisarius also dug a ditch and set a line of pointed stakes around it. When, in December 533, these preparations had been completed, he felt able once more to turn his attention towards the enemy (*80).

Belisarius opened the campaign by sending John the Armenian out ahead with the bucellarii and all but 500 of the other cavalry; the next day, he followed with the remaining cavalry and the infantry (*81). Procopius implies that all the available field-forces were employed on this campaign (*82); the defence of Carthage would therefore presumably have been left to the prefect and the inhabitants.

The Byzantine cavalry under John located the Vandal army encamped at Tricamarum, 150 stadia (30 km.) from Carthage. The site of the battle is unknown, though it seems likely that it was on the main road towards Numidia, in the vicinity of Mornaghia (*83). John did not attack at once, but bivouacked near-by to await the arrival of Belisarius and the rest of the army. At mid-day on the following day, however, while the Byzantine forces were preparing their meal, the Vandals drew up their line of battle on the far side of a small brook. Just before the action commenced, Belisarius arrived with his 500 horsemen, having left the infantry to reach the battlefield at their own speed. As at ad Decimum, therefore, both armies were composed entirely of cavalry (*84).

The Byzantine centre was occupied by Belisarius's own bucellarii and the 500 cavalry who had just arrived; on the right John had placed the regular cavalry and on the left the foederati. The Massegetae ,

II.2.

still of undecided loyalty, stood apart from the Byzantine army, waiting to see the outcome before joining in the battle (*85). The Vandals' centre was composed of Tata's 5,000 picked men; they were flanked by the Vandal levies commanded by their millenarii. The allied Moors, whose military value was dubious, were placed in the rear. Gelimer occupied no particular position on the battle-field, but was to be seen everywhere along the Vandal line (*86).

It was evidently Gelimer's intention that the Vandals should maintain their formation and defend their position fighting with their swords only (*87). After drawing up his line of battle, he therefore made no attempt to advance across the stream. Two feint attacks and retreats, led by John the Armenian with a small force of men against the Vandal centre, failed to entice them to abandon their position. The third Byzantine attack, however, was mounted in greater force with almost all the bucellarii and was followed by a general attack along the whole front. In the face of it the Vandal centre, after standing firm as Gelimer had intended, gave way; Tata himself was killed and the rest of the Vandals routed, leaving 800 dead for a loss of 50 Byzantines. Once the outcome of the battle had been decided, the Masegatae joined in on the side of the victors. Some of the Vandals took refuge in the stockaded camp in which they had deposited their women and children before the battle. As soon as the Byzantine infantry arrived on the scene, Belisarius stormed the camp and captured Gelimer's money. The king, however, had already fled with a handful of followers towards Numidia (*88).

The killing and looting that followed the battle continued through the night, and it was only with difficulty that Belisarius managed to restore order in the greater part of his army on the next day, the re-

II.2.

mainder having made off towards Carthage with their spoils. He then sent John the Armenian with 200 cavalry in pursuit of Gelimer and, after sending orders to Carthage for the disarming of the Vandals who had taken refuge in the churches there, he followed with what remained of the army (*89). John pursued Gelimer for five days and five nights and was on the point of overtaking him when, at sunrise on the sixth day, he was accidentally shot and killed by Uliaris, one of Belisarius's bucellarii. Gelimer therefore escaped capture, while John's men temporarily called off their pursuit to bury their leader and to wait for further instructions from Belisarius. How much time was lost is uncertain (*90).

Belisarius continued the pursuit as far as Hippo Regius, where he learnt that Gelimer had already sought refuge with the Moors who lived on mount Pappua. The identification of this mountain is uncertain. The likeliest explanation seems to be, however, that it lay in the Kroumirie range and that after crossing the Monts de la Medjerda Gelimer had doubled back on his tracks at around Onellaba (Bordj bou Larès), thereby giving Belisarius the slip (*91). Since winter was setting in and Belisarius had important affairs with which to occupy himself in Carthage, he entrusted the blockade of Pappua to Pharas, the trusted commander of the Heruls (*92). As the siege dragged on into the following year (534), Pharas became impatient and attempted to storm the position, but was repulsed by the Moors for the loss of 110 men. After three months of blockade, Gelimer made known that he was willing to surrender. Belisarius then sent Cyprian, to escort the captive king to Belisarius's residence at Aclas in the suburbs of Carthage (*93).

II.

3. Solomon's first governorship and the mutiny of Stotzas (A.D. 534-538)

Belisarius left Carthage for Constantinople in the summer of 534 to answer accusations that had been made against him there by his enemies. He took with him Gelimer and some 2,000 or more Vandals, the former to end his days as a country landlord in Galatia, the latter to form five numeri of cavalry, the Vandali Iustiniani, on the eastern frontier (*1). Solomon, who had served as Belisarius's domesticus during the recent campaign and after the battle of ad Decimum had taken the news of the Vandal defeat to the emperor, now returned to Africa invested with the authorities both of magister militum Africae and of praetorian prefect (*2). Solomon was an Armenian, born at Solochon near Dara on the Euphrates (*3). His future record in Africa shows him to have been an able administrator and a highly competent field commander. His dedication to the emperor's service, however, did not always earn him the loyalty of those placed under his command. He was besides slow in sensing discontent among his subordinates and in taking action to deal with it.

The fall of Carthage, in September 533, had delivered the Vandal kingdom into the hands of the emperor. During the winter and spring of 533 and 534, with Gelimer safely blockaded on mount Pappua, Belisarius was able to spare troops to make good the full extent of this conquest. The islands of Sardinia and Corsica were occupied by troops under Cyril (*4); Caesarea in Mauritania was occupied by an infantry company (λόχος) commanded by an officer names John (*5); another John, one of Belisarius's πραιποσιτοι, was sent to occupy the fort at Septem, on the straits facing Gibraltar (*6); the Balearic islands (Ibiza, Majorca and Minorca) were entrusted to Apollinarius, an Italian formerly in the service of Hilderic (*7); and reinforcements were sent to join Pudentius and Tatti-

II.3.

mut in resisting the Moors in Tripolitania (*8). The other island possession of the Vandals, Lilybaeum in Sicily, was still held by the Ostrogoths and did not fall to Belisarius until December 535 (*9). Meanwhile, garrisons were also established in Numidia and Byzacium (*10).

In April 534, the emperor set out in two rescripts the projected civil and military organization of the reconquered provinces (*11). These documents show that Justinian aimed at nothing less than the total reoccupation of Roman Africa up to the boundaries that had existed before the Vandal and Moorish incursions (*12). Seven provinces were to be reconstituted, under the civil administration of a praetorian prefect based in Carthage (*13). Three of these, Zeugi Carthago (formerly Proconsularis), Byzacium and Tripolis, were to be administered by consulares; the remainder, Numidia, the two Mauritaniae and Sardinia (which included Corsica), by praesides (*14). The military authority was vested in a magister militum, below whom ranked five duces, one each for the provinces of Tripolis, Byzacium, Numidia, Mauritania and Sardinia (*15). Their headquarters were to be placed provisionally at Lepcis Magna, Capsa and Thelepte, Constantina, Caesarea and probably Caralis respectively (*16). Septem was to be held by an unspecified number of soldiers under a tribune, who was also to be responsible for the dromones that patrolled the straits; this command was dependent on the dux Mauritaniae, resident at Caesarea (*17). Thus the area over which Solomon had command when he took over from Belisarius and Archelaus in the summer of 534 was approximately the same as that nominally controlled by the Vandals at the time of the death of Gaiseric (*18). However, in practical terms, the extent of Byzantine control in Africa went only as far as it was possible to secure the provinces against Moorish raiding,

II.3.

which, since the time of Thrasamund, had been increasing both in frequency and in extent.

Even as Belisarius was embarking, news reached Carthage that the Moors were again plundering Byzacium and that a detachment of cavalry together with its two commanding officers, Rufinus and Aigan, had already been overcome and destroyed by a vastly superior force under four Moorish leaders, Cusina, Esdilasas, Iourphouthes and Medisinissas (*19). Belisarius therefore left behind under Solomon's command some of his own bucellarii, and fresh reinforcements were later sent from Constantinople under the command of Theodore the Cappadocian and Ildiger (*20).

Solomon advanced rapidly into Byzacium, possibly by way of the coast road through Hadrumentum, and came upon the Moors encamped at * Mamma (Hr. Douimis), on the south-eastern edge of the Tunisian Dorsal, at the point where the Oued Cherichera opens out into the plains around Kai-rouan. Here the Byzantine forces made their camp (*21). The Moors were on this occasion nomads from the south and the tactics that they employed were precisely those which had destroyed the army of Thrasamund some 15 years previously. They formed a circle of their camels, arranging them twelve deep, and, placing their women and children in the centre, prepared to defend the enceinte, armed with swords, shields and throwing spears (*22). Aware of the presence of a second party of mounted Moors in the mountains behind the Moorish camp, Solomon directed his first attack against the side of the camp facing the plain. As the smell from the camels reached their nostrils, however, the Byzantine cavalry horses took fright, and in the confusion that followed the Moors were able to strike into the Byzantine ranks. After rallying his men at a convenient distance, Solomon therefore led his second attack from a

II.3.

different quarter on foot with a force of at least 500 men. This time the defences were penetrated, at the expense of 200 camels killed, and the Moors fled into the mountains, leaving, according to Procopius, 10,000 of their number dead and all their women, children and the remaining camels as booty to the Byzantine troops. After this success, Solomon led his troops back to winter quarters in Carthage (*23).

The following spring (535) (*24), Byzacium was once more raided by the Moors, and Solomon again took the field with an army. He came upon them encamped on mount Βουργαῶν, the identification of which is uncertain (*25). Procopius describes it as precipitous on the east side, but easier to ascend on the west. It had two peaks of which the Moors had occupied only the lower one, whilst their camp was situated half-way up the slope on the west side. After spending two days camped at the foot of the mountain and having failed to bring the Moors to battle, Solomon sent a party of 1,000 infantry out at dusk under the command of Theodore, the comes excubitorum (*26), to scale the precipitous east face and occupy the higher peak. When dawn came, the Byzantine infantry on the peak displayed their standards and the Moors awoke to find themselves caught between two opposing forces and subject to a deadly hail of arrows from above. Seized with panic, they fled and in the ensuing rout one of their leaders, Esdilasas, was captured and some 50,000 (?) Moors were killed; many of them perished in the rush to get away. So many prisoners were taken that a Moorish slave boy was worth no more than a sheep. Those who escaped made their way to Numidia to join Iaudas, leaving behind in Byzacium only the Moors under Antalas, who was still at peace with Byzantium (*27).

Since the summer of 534, Iaudas, chief over the Aurès, had been raiding in Numidia as far north as the region of Romanized settlement

II.3.

in the high plains south of Constantine (*28). In the summer of 535, a party of Moors under Iaudas returning southwards after a raid were surprised to find the spring at Tigisi (Aïn el-Bordj) defended by the Byzantine garrison of the near-by fort of ad Centenarium, seventy Huns commanded by Althias (*29). After failing to bribe the Byzantine commander with an offer of one-third of the booty in return for access to the water, Iaudas agreed to settle the matter in single combat with Althias. What followed illustrates well the superiority of the sixth-century Byzantine mounted archer over an apparently stronger adversary, Althias being small of stature, Iaudas finely built and of warlike character. Iaudas, also fighting on horseback, first threw his spear; but Althias caught it in his right hand and, being ambidexterous, loosed an arrow with his left, which killed Iaudas's horse under him; whereupon the Moorish leader leapt onto a replacement horse and rode off with his followers, abandoning all the booty (*30).

After defeating the Moors in Byzacium, Solomon next turned his attention to Numidia. By exploiting the rivalries of the Moorish leaders, he was able to secure with bribes the assistance of the Moors ruled by Ortaias, of the Hodna region, and Massonas (probably of the Nementcha), who agreed to act as guides and allies. Iaudas had retreated into the Aurès massif, and it was here that Solomon planned to run him to earth. With a mixed force of infantry and cavalry, Solomon advanced from his base camp on the Abigas river at a rate of 50 stadia (10.5 km.) per day. In seven days he came to the foot of mount 'Ασκιδος, where the guides predicted that the enemy would be located (*31). After spending three days encamped at the foot of the mountain, however, and having seen no sign of the enemy, Solomon began to doubt the trust-

II.3.

worthiness of his guides. Since insufficient food had been brought for a campaign of more than a few days, he therefore hastily withdrew to the plain and put his troops into camp. With nothing achieved in Numidia, Solomon then established garrisons in the region and returned to Carthage for the winter with the remainder of the troops (*32).

Further campaigning planned for 536 was prevented by the outbreak of an army mutiny, which took more than two years to quell (*33). The problem of maintaining discipline in the sixth-century Byzantine army was made more acute by reason of its heterogeneous nature. Indiscipline amongst the barbarian allies and foederati, in particular the Massegetae who had already come near to active revolt on the field of Tricamarum, was due as much to their temperament and lack of natural loyalty to their employers, as to the fact that at least 1,000 of their number were Arians like the Vandals (*34). During the campaign against the Vandals, official Byzantine propaganda had attempted to underplay the religious issue by concentrating instead on the illegitimacy of Gelimer's usurpation of power (*35). After the fall of Carthage, Justinian's dealings with the Arians were at first lenient. A law of April 534 made provision for the return of church property, including buildings and sacred vessels, to the Catholics; but Arian priests were, for the time being, allowed to retain their ecclesiastical positions (*36). The policy of appeasement was opposed, however, by the council of Catholic bishops which met in Carthage in February or March 535 (*37). In reply to the bishops' demands, Justinian promulgated a new law on 1 April 535 (*38); by it the Catholic Church was to resume immediate control of any of its former possessions that were still in the hands of Arians; all non-Catholics,

II.3.

including Arians, Donatists and even Jews, were forbidden to hold religious services; non-catholics were debarred from public office; and, contrary to an earlier law (*39), no special case was made for Arian foederati or allies. The council of Carthage was also supported by the new pope, Agapetus, in condemning Justinian's policy of allowing Arian priests to enter the catholic hierarchy, although it agreed that such men should receive financial compensation (*40). The hardening of the official attitude towards Arians was not unnaturally resented by those in the Byzantine army, and made them more susceptible to the influence of the Vandal priests (*41).

Religion, however, was not the only cause for disquiet amongst the soldiery; there were also economic factors (*42). The soldiers' pay was, as usual, overdue (*43). Furthermore, many of the soldiers had taken Vandal wives and had inherited estates through them. A law of April 534, however, made it possible for the descendents of Roman landowners who had been dispossessed by the Vandals to regain their inheritance if they put forward their claim within five years. In the meantime, Vandal lands were expropriated by the state and a new land-survey was undertaken (*44). To many soldiers it appeared therefore that they were being deprived of what was theirs by right of conquest (*45).

The feelings of discontent crystallized into active revolt at Easter 536, when the Arians found themselves debarred from religious celebrations, in particular from baptizing their children (*46). A plot was hatched to kill Solomon as he attended unguarded the Easter-day ceremony (March 23). The conspirators even included a number of Solomon's own bucellarii. At the critical moment, however, the

II.3.

assassins' nerve gave way, and, the following day, a second attempt achieved no more success. Already, however, revolt was showing itself openly and outrages were being committed against Roman landowners. Five days after Easter day, the rebels converged in the hippodrome of Carthage. When Theodore the Cappadocian, whose dislike for Solomon was no secret, was sent to pacify them, the men elected him their leader and marched on the prefect's palace. The first person to be killed was the other Theodore, commander of the excubitors; his death was followed by those of others of Solomon's staff. Solomon himself evaded the mutineers and took refuge in the palace chapel, where he was later joined by Martin. When night came, the two men made their way to the house of Theodore the Cappadocian and, leaving him to control Carthage as best he could, they took ship with Procopius to Missua, across the bay of Tunis. From there Martin went to join Valerian in Numidia, to rally support from the garrisons in the province, while Solomon and Procopius set sail for Syracuse, where they were received by Belisarius (*47).

The mutineers withdrew from Carthage and, gathering in the plain of Bulla Regia, elected Stotzas, a former *δορυφόρος* of Martin, as their leader (*48). They then marched on the capital. Their number came to 8,000 Byzantine deserters, 1,000 Vandals, including 400 who had escaped from custody at Lesbos while being shipped to the east and had made their way to Mauritania, and an unspecified number of slaves (*49). Belisarius arrived in Carthage with 100 of his bucellarii and accompanied by Solomon just in time to prevent its fall. The news of his arrival was enough to cause the mutineers to retreat from the walls (*50). Although only 2,000 of the garrison of Carthage

II.3.

remained loyal, Belisarius pursued the mutineers with this force along the road leading to Numidia and finally caught up with them at Membressa, where the road crosses the Medjerda (*51). The two armies camped outside the town, which was unwalled, Belisarius's men in the flood-plain beside the river, Stotzas on the near-by hill. The battle commenced the following day. Despite their higher position, the mutineers found that the effect of their arrows was reduced because a strong wind was blowing in their faces (*52). Stotzas therefore abandoned his position and attempted to move around the flank of Belisarius's force in order to obtain the advantage of the wind. But the manoeuvre was clumsily executed. Belisarius fell on his exposed flank and sent the mutineers fleeing towards Numidia. With the immediate threat to Carthage removed, Belisarius returned to Sicily, where his own forces were mutinous, leaving Ildiger and Theodore in charge at Carthage (*53).

The crisis, however, was far from being over. The dux Numidiae, Marcellus, gathering together a force composed of all the men under his command, numbering perhaps as many as 4,000 infantry and 1,200 cavalry, marched from Constantina to confront the mutineers at Gadi-aufala. The ensuing contest was won by words alone. While the troops of Numidia joined the rebels, their commanders were killed after taking sanctuary in a near-by church (*54).

In response to the deepening crisis in Africa, Justinian appointed as magister militum the patrician and ex-consul Germanus, who was also his cousin (*55). Germanus arrived in Carthage towards the end of 536 accompanied by Dominicus, who was to replace John of Dyrrachium, who had died, as commander of the infantry, and Symacchus, who was to

II.3.

be the new prefect of Africa (*56). Only one-third of the army in Africa had remained loyal (*57). Before taking the field against the rebels, Germanus therefore attempted by means of pay and promises to draw back into the imperial camp as many of the rebellious troops as possible (*58). The policy succeeded so well that in 537 Stotzas decided to commit his remaining forces to battle while they were still of strength roughly equal to those of Germanus. He also hoped in this way to win over some of his former supporters who, at the critical moment, might be loth to fight against their comrades. When Germanus led his army out from Carthage to confront Stotzas 35 stadia (6.5 km.) from the city, however, his troops did not waver and Stotzas was again forced to withdraw towards Numidia (*59).

At Cellas Vatari (*60) the mutineers were overtaken and forced to give battle. Germanus placed his infantry, under Dominicus, in the centre in front of a line of baggage wagons to give them greater confidence (*61). He himself commanded the pick of the cavalry on the left wing. The command of the three λόχοι of cavalry on the right was divided between John Troglitas with three others (nearest to the centre), Ildiger and Theodore the Cappadocian. As silent spectators to the contest came many thousands of Moors under Ortaias and Iaudas, now openly reconciled to one another. Following the advice of the mutinous Heruls, Stotzas opened the battle by throwing his main cavalry attack against John's company, which seemed the weakest point, and broke through, thereby exposing the right flank of the Byzantine infantry which in turn began to waver. Germanus, however, brushing aside the weaker cavalry force sent against him on the left, proceeded to sweep the field from left to right; he was met by Ildiger and

II.3-4.

Theodore the Cappadocian working from the other direction. The battle turned into a rout, culminating in the storming of the mutineers' camp, at which point the Moors joined in the looting. Stotzas, however, had already fled with 100 men. He made his way to Mauritania, where he later married a Moorish chieftain's daughter (*62).

Germanus remained in Africa for at least another year. Nothing is known of events during that time except that another plot, led by Maximinus, one of his own bucellarii, was uncovered before it could gain wide support, and its ring-leader executed outside the city walls of Carthage (*63).

4. Solomon's second governorship (A.D. 539-544).

Solomon returned to Africa in the early summer of 539 and again assumed the offices of magister militum per Africam and praetorian prefect (*1). The fighting strength of the army had been sapped both by the mutiny of 536-537 and by the drafting of reinforcements to Italy, where they had been urgently needed by Belisarius. The army of Africa had lost five of its commanders killed by the mutineers at Gadiaufala in 536; two more, Martin and Valerian, had gone to Italy in December 536 (*2); and, at the end of 537 or early in 538, Ildiger had also been sent to Belisarius's aid at Rome, taking with him from Africa a large force of cavalry (*3). In 539, however, the campaign against Vitigis in Italy was in its final stages (*4) and Justinian was able to direct resources back once again to the task of completing the reconquest of Africa. Solomon therefore arrived with a new army; its strength is not known, but it included three new senior officers, Rufinus and Leontius, the sons of Zaunus, and John, son of Sisiniolus (*5).

II.4.

Once in Carthage, Solomon set about consolidating the strength of his army by weeding out possible trouble-makers and sending them either to Constantinople or to Belisarius in Italy. He also rounded up and expelled all the Vandals who remained in Africa, in particular the women. The gaps in the army lists were filled by recruiting from amongst the provincials (*6). The overhaul of the tax system had probably been completed during the civil administration of Symmachus, for Procopius states that Africa now provided abundant revenues and was prosperous besides. One of the principal uses of these revenues would have been for defence, in particular the programme of building forts and town walls, which now got fully under way (*7).

In the summer of 539, Solomon was at last able to undertake the campaign against the Moors of the Aurès that he had planned for the summer of 536. The army was organized into two divisions. The first, under Guntarith (*8), advanced to the river Abigas (Oued bou Roughal) (*9), in the plain of Bagai. It was there defeated by the Moors and forced to retreat to its stockaded camp, which the Moors then proceeded to besiege. Solomon was at this time 60 stadia (12.7 km.) away with the main force, but, hearing of Guntarith's predicament, he immediately sent forward reinforcements, presumably cavalry. The Moors meanwhile opened the irrigation dykes fed by the river in an attempt to flood Guntarith's camp; but before they could attack, Solomon arrived with his army and forced them to retreat to Βάβωσις (*10), at the foot of the mountains. Here they made camp. No further details are recorded of the major battle that followed, save that the Moors were defeated, despite their superiority in numbers, and withdrew from the area. Some went to Mauritania, others to the

II.4.

area south of the Aurès, while Iaudas with 20,000 men withdrew into the Aurès massif (*11). This evidence suggests that Iaudas's army had received support from the Moors of the Hodna region, led by Ortaias, and from the nomads under Cusina, who had settled in Numidia after their defeat at mount Βουρλαών in 535.

Before moving against Iaudas, Solomon set about laying waste the plains around Thamugadi north of the Aurès, which were full of ripening corn. This action would be difficult to explain if the area had at that time been one of Romanized settlement; but Procopius states elsewhere that Bagai, Thamugadi and the other cities of the region around the Aurès were deserted (*12). It seems possible, therefore, that the lands were being cultivated by the Moors from the Aurès, who had moved into the plain during the fifth century at the expense of the Roman cultivators (*13), and that the purpose of Solomon's pillaging was to drive them off the land and so make it available once more for Roman settlement. Whatever Solomon's motives may have been, however, while he was thus engaged, Iaudas was given time to secure his position within the massif. Leaving a garrison to defend the Moorish stronghold of Ζερβοβλή, Iaudas himself, with the rest of his followers, took up position at Τοῦμαρ, a site described as defended by cliffs on all sides and where there was but little water available for a besieging force (*14).

The identification of the topographical features mentioned by Procopius has been attempted by a number of commentators without achieving any conclusive results (*15). It would appear likely, however, that the campaign was concentrated in the northern and central regions of the Aurès. This is suggested not only by the fact

II.4.

that Solomon began his march from around Thamugadi, but also because, in contrast to the campaign of 535, he took with him only infantry, which indicates that the terrain was unsuitable for cavalry. Solomon besieged Ζερβοδλή for three days. During this time so many of the defenders, including all of the leaders, were killed by Byzantine archery that the fort was deserted secretly at night and the Byzantines were able to occupy it without a fight on the morning of the fourth day (*16).

Leaving a garrison at Ζερβοδλή, Solomon proceeded to Τοῦμαρ . After several days of besieging the position and knowing that because of the shortage of water the siege could not be maintained indefinitely, Solomon was preparing to order the attack; but, before he had even decided upon his tactics for the assault, an optio from his own detachment (κατάλογος), Gezon by name, began the assault alone. After killing the three Moors who were guarding the entrance, he was soon joined by several of his comrades and the place was stormed. Iaudas, wounded in the thigh by a javelin, fled to Mauritania. The final objective of Solomon's campaign was the rock of Geminus, or Geminianus, on which Iaudas had stored his money and his wives (*17). Because the Moors considered the position impregnable, it had been left in the sole charge of an old man. It therefore only required a soldier to scale the walls and smite off the old man's head for all Iaudas's treasure to be delivered to the Byzantines (*18).

The Aurès campaign was followed by the annexation of Mauritania Prima or Sitifensis, which Procopius also refers to as the land of Ζάβη. Whether this province included the Petite Kabylie seems doubtful, since it is likely that this area formed part of the kingdom of

II.4.

Mastigas, who ruled at that time over the whole of Mauritania Caesar-
iensis, with the exception of the city of Caesarea itself. The dis-
 tribution of Byzantine fortifications, however, suggests that during
 this period the whole of the Hodna region and the high plains of
 Sétif were garrisoned and the inhabitants no doubt made to pay a tri-
 bute (*19). The mountains of Belezma and the Aurès were also ringed
 with forts, but although Procopius suggests that garrisons were also
 established within the Aurès massif (*20), no Byzantine fortification
 has yet been found there. In the high plains and mountains of the
 Constantinois, the system of fortification begun by Belisarius or by
 Solomon during his first governorship was now brought to completion
 (*21). The southern limit of Byzantine political control now ran
 from Zabi Iustiniana through Tubunae to Thabudeos, Badias, ad Maiores
 and, possibly, ad Turres; thence to Capsa Iustiniana and Tacapes
 (*22). In Tripolitania, the Byzantine military presence was confined
 to the coastal cities, but the tribes of the interior, in particular
 the Leuathae and the Garamantes, were held in treaty relationships
 (*23). North of this line, the country was covered by a network of
 forts and fortresses, defending centres of Roman settlement and
 encircling the zones of Moorish settlement, such as the Tunisian
 Dorsal and the Kroumirie. Many of these fortifications were paid
 for out of the treasure captured from Iaudas; but the main financial
 burden must have fallen on the tax-paying provincials (*24).

Procopius indicates that the level of taxation imposed immedi-
 ately after the reconquest by Justinian's assessors was oppressive
 and was one of the causes of the mutiny led by Stotzas in 536 (*25).
 It would seem likely, however, that any level of taxation would have

II.4.

seemed oppressive to those who had paid little or no tax under the Vandal régime. In Solomon's second period of office in Africa we hear of no ^s much complaints. Indeed, both Procopius and Corippus depict this period as a golden age (*26). Byzacium had been at peace since 535 and northern Numidia and Carthago Proconsularis since 537; Corippus is hardly exaggerating, therefore, when he writes of the period before Solomon's death in 544 as of ten full years of prosperity (*27). But they were not to last.

The security of Byzantine Africa relied at all times not only on the system of fortifications and garrisons which covered the country, but also on continuous diplomatic activity to maintain cordial relations with the Moorish leaders. The Moors not only represented the gravest threat to peace in the area. They also formed, as they had done in the fourth century, an indispensable ^a part of the policing system of the limites, or frontier zones which divided the areas of Roman from native settlement. In return for imperial recognition of their leaders, confirmed by their investiture with the tokens of office, and for annual cash payments, the Moors undertook to maintain the peace and to leave the lands of the Roman Africans unmolested. The existence since the later fifth century, however, of large chiefdoms or petty kingdoms, encompassing a number of smaller tribes, meant that, when breaches occurred between a Moorish leader and the magister militum or dux limitis, a major rebellion was likely to ensue, requiring the intervention of the full field-army supported by loyal Moorish contingents (*28).

As though representing a dread portent of what was to follow, the bubonic plague, which had already swept through the eastern empire,

II.4.

reached Africa by sea in 543. Corippus asserts that it afflicted only the Roman population, in particular those of the towns, and left the Moors unscathed. The latter therefore bided their time, waiting for the risk of infection to be removed before falling on the weakened provinces (*29). It is indeed likely that mortality was highest in the larger centres of population, in particular the coastal cities which would have been directly exposed to shipping, and therefore to rats, from the east; the country areas may have been less seriously affected, though this does not seem to have been the case elsewhere in the empire (*30). The plague, however, was not the cause of the Moorish revolt which broke out in 544.

In 543, Solomon's nephew Sergius was appointed dux of Tripolitania. He possessed none of the qualities of his uncle; indeed, his only qualification was that, as suitor to the grand-daughter of Antonina, Belisarius's wife, he was a protégé of the empress Theodora (*31). One of the first of his acts on reaching Lepcis Magna was to receive eighty leading men of the Leuathae at a banquet in the governor's palace (*32). Now it was customary for Moorish leaders to receive from the emperor's representative the insignia which confirmed them in their office; although Procopius mentions that it was said by some that the Leuathae had gathered in order to kill Sergius, any such idea is scarcely credible, since they had nothing to gain by such a move. The Moors did have grievances, however, in particular the plundering of their crops by the Byzantines (*33). Sergius however, refused to listen to their complaints and was about to leave the room, when one of the Moors laid a hand on his shoulder to restrain him. The Moor was instantly killed for his insolence by one of Sergius's guards and

II.4.

in the uproar that ensued all but one of the Moorish leaders were massacred, despite the oaths which Sergius had given for their safety. This was the signal for a major insurrection. Sergius defeated the army of the Leuathae which massed outside Lepcis to avenge the deaths of their leaders; but in the following spring the tribe was again plundering the Roman estates of Byzacium (*34).

Another revolt had meanwhile been brewing in Byzacium itself among the Moors of the Dorsal region. Solomon had caused the brother of Antalas, Guarizila, to be put to death for allegedly fomenting revolt, and had stopped Antalas's pension. This breach, and the irruption of the Moors of Tripolitania into Byzacium, brought Antalas to renew the old alliance with them that had been allowed to lapse since the time of the Byzantine reconquest (*35). To oppose the Moorish insurgency Solomon was joined in Carthage by Sergius and by Sergius's brother Cyrus, the dux of the Pentapolis. As Solomon advanced on Theueste, near to which Antalas had gathered his forces, he drew further support from the Moors under Cusina and from two minor Tripolitanian tribes (*36). At first Solomon attempted to open negotiations with Antalas, but when this policy failed the Byzantines were able to gain an initial success and recapture part of the Moors' booty. Battle was joined with the main Moorish force at Cillium, some 70 km. east-south-east of Theueste, down the valley of the Oued el-Hathab; but at the crucial moment, Solomon found himself deserted by his Moorish allies and by a large number of his own troops, who were more interested in the division of the spoils already gained than in renewed fighting. As he was retiring from the field of battle, the magister militum's horse stumbled while negotiating a

II.4-5.

ravine, throwing its rider to the ground. Although his guards swiftly set him on its back again, Solomon was too numbed from the fall to keep hold of the reins and was overtaken and killed by the enemy, together with a number of his bodyguard (*37).

Solomon's rule in Africa had been wise and moderate. It was to take two unhappy years of turmoil before a worthy successor was to be found in the person of John Troglitas, and a further two before order was finally restored.

5. Military crisis (A.D. 544-546).

Solomon was succeeded as magister militum and prefect by his nephew Sergius (*1). The choice could not have been less fortunate. Not only did Sergius lack the necessary practical experience and personal qualities (*2), but he was also disliked by all ranks of the army and by the civilian population. Moreover, the appointment of a blood relation of Solomon, whom Antalas held responsible for the murder of his brother, and the man who had caused the massacre of the leaders of the Leuathae was not likely to be received favourably by the Moors. In a letter to Justinian, however, Antalas continued to stress his loyalty to the emperor's person, but demanded that Sergius be removed from office. Justinian rejected the offer of peace on such terms (*3).

After the battle of Cillium (spring 544) (*4), the Leuathae advanced as far north as Laribus, which they besieged for a short while before accepting a bribe of 3,050 gold solidi and departing homewards (*5). Antalas, however, was still active in Byzacium, where he was joined by the mutineer Stotzas, who returned from Mauri-

II.5.

tania with some Vandals and former soldiers (*6). Because of Sergius's unpopularity the Byzantine garrison commanders refused to cooperate with him and remained inactive (*7). The entreaties of the Africans whose lands were being pillaged, however, eventually stirred John, son of Sisiniolus, to take the field (*8). John's plan was to advance southwards from Proconsularis and to join forces with those of the dux Byzacii, Himerius, who was to march north from Hadrumentum to meet him at Μενεφύσσα (*9). On learning that the Moors were already encamped at the place for the rendez-vous, however, John countermanded his earlier instructions; but the second letter never reached Himerius, who, after a night's march from Hadrumentum, led his men right into the hands of the enemy (*10). Only one κατάλογος of fifty horsemen, commanded by Severianus of Emesa, put up any fight; but they too, together with Himerius, were forced to lay down their arms after being surrounded in the near-by fort of Cebar to which they had fled (*11). The soldiers went over to Stotzas, whose powers of persuasive eloquence had not diminished during his seven years of exile. Himerius and Severianus were taken captive, but later escaped and made their way to Carthage (*12).

While John withdrew to Proconsularis, Stotzas advanced on Hadrumentum. Threatening Himerius with death if he did not comply with his orders, Stotzas sent the dux up to the gates with a party of Vandals posing as prisoners. On hearing from their own commander the fabricated story that Stotzas and the Moors had been defeated, the defenders opened the gates and were immediately overpowered by the Vandals. Hadrumentum was sacked and a small garrison installed, while the Moors withdrew with their booty. Shortly afterwards, the

II.5.

city was retaken through the enterprise of a priest named Paul. This man escaped from the city by having himself let down over the walls on ropes, and made his way by sea to Carthage. There he was received by Sergius, who grudgingly loaned him eighty soldiers, with whom and with a flotilla of small boats manned by sailors and Roman Africans dressed to look like soldiers, Paul set sail. As the expedition was nearing Hadrumentum, word was sent to the notables of the city that an army commanded by Germanus, the victor of Cellas Vatari, was on its way from Carthage; and they, thus encouraged, arranged for a postern gate on the town wall to be left open. Entering through it at night, Paul's men overpowered the garrison. The effect of the rumoured advent of Germanus was such as to cause the Moors to temporarily withdraw from Byzacium (*15).

The deception did not last long, however, and before the year was out Byzacium was again being plundered. The Roman population fled to the cities, to Sicily and to other islands, while those who had the means made their way to Constantinople (*14).

It was doubtless the accounts of these exiles that impressed on Justinian the seriousness of the situation in Africa. He responded by sending more troops and by curtailing the authority of Sergius, by appointing a praetorian prefect and a second magister militum Africae. The new prefect was Athanasius, an elderly and experienced administrator, who, since the end of 539, had served as praetorian prefect of Italy (*15). The second magister militum, Areobindus, however, was totally unequipped for military command; he was a man of the senate with no previous military experience. With him came Prejecta, his wife and the daughter of Justinian's sister Vigilantia. The

II.5.

troops who accompanied the party were few in number, but included a detachment of Armenians, commanded by two brothers, Artabanes and John, of the royal house of the Arsacidae; Artabanes had played a leading rôle in the Armenian revolt of 538, but in Africa was to prove himself a trustworthy and capable servant of the emperor (*16). Justinian divided the military command equally between Sergius and Areobindus. To the former he gave the task of dealing with the unrest in Numidia, where Cusina and Iaudas had recently joined the revolt (*17); to Areobindus fell that of pacifying Byzacium (*18). However, the policy of dividing the military command was to prove no more successful in Africa than it had done earlier in Italy with Belisarius and Narses (*19).

Areobindus arrived in Carthage in the spring of 545 (*20) and Sergius immediately departed for Numidia. Nothing is known of Sergius's campaign. Areobindus, however, sent John, son of Sisiniolus, against the enemy in Byzacium or Proconsularis, but, finding itself greatly outnumbered, John's army retreated in disorder (*21). A second engagement took place later that year at Thacia (Bordj Messaoudi), on the Carthage road 38 km. north-east of Sicca Veneria (*22). It had been Areobindus's intention on this occasion that John's attack on the Moorish and rebel army, which had been reported in the area, should be coordinated with a simultaneous one from the west by Sergius approaching from Numidia. Sergius, however, refused to cooperate. John came across the Moors drawn up in front of a river. Under a hail of arrows the enemy was forced to withdraw across it, and John's forces followed. As they gave chase, however, the Byzantine cavalry ran headlong into Stotzas's force, which had come up in support of the

II.5.

Moors. The tyrant himself was mortally wounded by an arrow shot by John; but this piece of good fortune did not prevent the battle turning into a rout in which John also found his end in circumstances similar to those of Solomon at Cillium. John, the brother of Artabanes, was also amongst those slain (*23).

After the disaster of Thacia, Sergius was finally recalled towards the end of 545, and Areobindus became the sole magister militum Africae (*24). This move came too late, however, for any diplomatic advantage to be gained from it. In any case, disaffection in Africa was no longer confined to the Moors and the handful of deserters who had joined them; the dux Numidiae, Guntarith (*25), was already planning to overthrow Areobindus and set himself up as ruler in Carthage. With great ingenuity Guntarith persuaded the Moors of Cusina and Iaudas to join forces with those of Antalas and march on Carthage. Their number was increased by Stotzas's army, now led by a man named John; this included some 500 deserters, about 80 Huns and 400 or more Vandals. Confronted with such a force Areobindus summoned to Carthage what forces he could and put them under the command of Guntarith, about whose implication in the revolt he knew nothing. The army defending Carthage camped around the gates, outside the city walls (*26).

When the Moorish army approached the city, Guntarith opened secret negotiations with Antalas, promising him, in return for support for the furtherance of his ambitions, the control of Byzacium, half the possessions of Areobindus and a bodyguard of 1,500 men. Areobindus, however, was at the same time negotiating with Cusina, but since his diplomatic moves were all known to Guntarith, they were also known to Antalas (*27). It was Guntarith's intention to persuade

II.5.

Areobindus to commit himself to a battle, so that in it his death could be easily arranged. When the agreed day for battle came, however, Areobindus delayed in endless preparations and in deciding how best to put on his armour, so that the attack had to be postponed to the following day. Guntarith, fearing that the delay had been caused by a forewarning of the plot, rather than by Areobindus's own incompetence, decided finally to act openly. At first he attempted to frighten Areobindus into fleeing, by opening the gate of the city over which he had command, as though to invite the Moors to enter; this move might have succeeded, but the winter gales were beginning and Areobindus felt disinclined to put to sea in such weather. Meanwhile, the other commanders, notable^y Artabanes, urged Areobindus to deal firmly with the rebels, and a hand-to-hand battle was fought on the parapets and around the gate. On the sight of blood, however, Areobindus called off the combat and fled to the fortified monastery overlooking the harbour where his wife and sister were already sheltering. Thus was Carthage delivered to the rebels (*28).

Guntarith acted quickly to consolidate his position in Carthage. The mutineers led by John were brought into the city, and supporters of the emperor were put to death. Despite solemn pledges given for his safety by Guntarith, through the intermediary of the bishop of Carthage, Reparatus, Areobindus was also killed by Guntarith's guard Ulitheus (end of 545). Athanasius, the prefect, was spared, apparently on account of his advanced years (*29). Artabanes, who had fled the city, later accepted pledges for his safety and agreed to serve Guntarith. It is possible that Guntarith was taken in by Artabanes because of the latter's earlier disloyalty towards the emperor; what-

II.5.

ever the reason, however, it was to prove a fatal misjudgement (*30).

Guntarith's next concern was to gain imperial recognition of his command in Africa by representing himself to Constantinople as the man who had restored order during the crisis in Carthage. He therefore treated Prejecta with the greatest courtesy and induced her to write to her uncle, Justinian, explaining that the death of her husband had been solely the work of Ulitheus. In this way he hoped not only for imperial favour, but also for the hand of the emperor's niece (*31). The Moors, however, no longer had a rôle to play in the fulfilment of his personal ambition; besides which, Guntarith wanted to do nothing that might imperil his chances of success with the emperor. He therefore disregarded his agreement with Antalas, sending him only the head of Areobindus as reward for his assistance (*32).

When he realised that he had been tricked, Antalas withdrew to Byzacium and entered negotiations with the dux, Marcentius, who, because of the unsettled state of the province, was temporarily residing on an off-shore island; the troops under his command, who were still loyal to the emperor, were garrisoned in Hadrumentum (*33).

Early in 546, Guntarith sent Artabanes with an army against Antalas in Byzacium. In a battle south-west of Hadrumentum, Antalas's Moors fled the field, but Artabanes failed to follow in pursuit, making the excuse that his forces might thereby have been exposed to an attack from the rear mounted by Marcentius from Hadrumentum. In fact, Artabanes contemplated joining forces with Marcentius at this stage, but desisted from doing so, judging that the tyrant could more easily be disposed of in Carthage than on the field of battle. He

II.5-6.

therefore returned to Carthage and explained to Guntarith that Byzacium could only be reduced with the aid of a larger army (*34). Such a force was assembled, and Guntarith intended leading it. On the evening before it was due to set out, however, Artabanes carried through his plan, and Guntarith and his followers were killed at a banquet held in the prefect's palace in Carthage (early 546). The other ring-leaders were rounded up and sent to Constantinople (*35).

Artabanes now became magister militum Africae. In her gratitude for the avenging of the death of her husband and for her own salvation from the clutches of his murderer, Prejecta showered riches upon Artabanes and became betrothed to him. Before the end of 546, Justinian granted Artabanes's request to be allowed to follow his fiancée to Constantinople, where he was made consul, comes foederatorum and magister militum praesentalis and was fêted as a popular hero. His matrimonial ambitions were thwarted, however, when the woman to whom he had been married since childhood, hearing in far-off Armenia of his success, came to Constantinople in search of him. Her cause was vigorously espoused by the empress Theodora, and Prejecta was summarily married off to John, a nephew of Hypatius, the usurper in the Nika riots (*36).

6. The governorship of John Troglitas (A.D. 546-c.552).

John Troglitas, who succeeded Artabanes as magister militum Africae, arrived in Carthage towards the end of 546 (*1). The peace concluded with the Persians in the spring of 545 allowed the emperor to entrust the magister militum with a new army, with which to restore order in Africa (*2). John was probably a native of Τρώγλιος, a

II.6.

region of Macedonia (*3). He already had considerable experience of Africa, having served as a commander of foederati during the Vandal war and having taken part in the later battles of Autenti (535?) and Cellas Vatari (537) (*4). During Solomon's first governorship, he seems to have been dux of either Tripolitania or Byzacium (*5). He had left Africa after peace had been restored there (*6), and by 541 was serving as dux Mesopotamiae. In that year he took part in the battle of Nisibis against the Persians and remained in the east thereafter for some five years. Like Belisarius, thirteen years earlier, John came to Africa from the eastern frontier by way of Constantinople (*7).

In Africa the general Moorish uprising that had begun in 544 was still in progress, and the perennial plundering of Byzacium and enslavement of its Roman African population continued unchecked. The Byzantine forces seem, as in 544, to have been withdrawn to Carthage and the coastal cities of Byzacium (*8), and, in view of the smallness of their numbers, the dux Byzacii, Marcentius, was unable to take offensive action. The list of tribes which Corippus describes as hostile to Byzantium at this time gives the impression of a barbarian conspiracy of gigantic proportions, organized by Antalas with the purpose of driving the Romans out of Byzacium. In 546, as in previous years, the Moors of the Dorsal were joined in their plundering by nomads from Tripolitania, in particular the Leuathae and Austuriani, led by Ierna, the chief priest of Gurzil. The Moors of the Aurès region, including those ruled by Iaudas, were also in revolt, but not actively so in Byzacium (*9). The parlous state of the Byzantine defensive system is illustrated by the fact that even the

II.6.

small tribes of Proconsularis, such as those inhabiting the region around Curubis in Cap Bon, were able to raid near-by Roman settlements (*10).

No sooner had John arrived in Carthage than he set out for Byzantium with all the forces at his disposal (*11). Corippus describes the army that left Carthage as comprising nine brigades (agmina). We learn later that these included eight of cavalry, commanded by the magister militum Gentius, the duces Putzintulus, Gregory, Geiserith, John senior, Fronimuth and Marcentius, and the tribune acting commander Marturius; there was also one brigade of infantry commanded by the dux Tarasis (*12). Although the military terminology of Corippus is often vague and inconsistent, it seems possible to equate these units, and the λόχοι of Procopius, with the units called μοῖραι in the Strategicon of Maurice; they were commanded by duces or magistri militum uacantes and contained three or more numeri commanded by tribunes (*13). John's forces, leaving aside his own bucellarii and the Moorish allies, might therefore have numbered around 8,000-16,000 cavalry and 1,000-2,000 infantry. As his domesticus, and probably also a commander of bucellarii, John brought with him from Mesopotamia the Persian Recinarius, whom Corippus represents as a personification of wisdom (*14). The strength of the Byzantine army was swelled by the presence of two large contingents of Moorish allies from Numidia: Cusina with his Massyles and Ifisdaias together with his son, Bitiptes, and their followers (*15).

The route by which John advanced into Byzantium is uncertain, but in all probability it followed the coast road through Hadrumentum, where his forces may have been joined by the provincial garrison (*16).

II.6.

At Castra Antonia (*17), he received embassies from Antalas, who delivered a threatening message (*18). Undeterred, John pressed on to relieve the besieged towns of the sahel (*19). At first the Moors withdrew from the Byzantine territory before his advance, but, concentrating their forces in the western and wilder parts of the province, they later managed to inflict a severe reverse on the Byzantine advanced guard, which was commanded by Geiserith with the tribune Amantius (*20). John found the Moorish camp situated on a hill and constructed in the usual manner of the nomads, with a circle of camels eight deep and a stockade enclosing their women, children and baggage; there were two further rings of defences, one of cattle six deep and another of smaller animals including donkeys. The entrances were sinuous and flanked by booby-traps, so that only the Moors could go in and out without fear (*21). The Moorish field-force, directed by Antalas, took up position outside the camp, but near enough to it to allow the infantry to retire within it if the necessity arose. The cavalry of the right wing was commanded by Sidifan; Carcasan and the Ifurces took the left, while Ierna and Bruten held the centre. The Moors under Antalas took up a position on a hill some distance away (*22).

John put his forces into a marching camp a short distance from the Moorish camp (*23). He was particularly anxious for the safety of the Roman prisoners held by the Moors, and, rather than risk a battle, he therefore sent Amantius as ^{an} an embassy to Antalas, offering him an amnesty on condition that the Moors returned the prisoners, withdrew from Byzantine territory and renewed their oaths of allegiance to the emperor (*24). Amantius returned to the Byzantine camp the following morning to report that Antalas, recalling the lack of faith shown by

II.6.

two previous Byzantine commanders, Solomon and Artabanes, with whom he had entered into agreements, saw no reason to accept new overtures of peace (*25).

The battle began in an orderly fashion. John's small force of infantry, which he placed in the centre, was strengthened by the bucellarii under Recinarius and himself, and flanked on the right by five cavalry brigades and Cusina's Moors, and on the left by three brigades and the Moors of Ifisdaias (*26). As the two armies approached one another the sky became filled with arrows, javelins and sling stones. Corippus presents the engagement as a series of attacks and counter-attacks, dwelling in particular on the personal deeds of valour of the leaders of both sides; it is impossible, therefore, to achieve any understanding of the tactical development of the struggle. Its culmination, however, was the storming of the Moorish camp and the victory of the Byzantine forces. Antalas committed his troops too late to alter the outcome of the battle, and Ierna, attempting to escape the carnage and clutching the grizzly god Gurzil to his breast, was overtaken and slain (*27).

After driving the Moors from the Romanized parts of Byzantium, John set about reconstructing the Byzantine defensive system in the region. The words put into his mouth by Corippus show that this entailed, in effect, the restoration of the limes system on the lines established by Belisarius and Solomon; the only change was that there were now to be two duces in command of the region (*28):

'However, [the tribe of the Moors], dashed to pieces by the supreme authority of our God, has withdrawn. And now I intend to hasten the defence of the Libyan borders by their

II.6.

usual guardians and to restore a bountiful government. Even more swiftly lead back the numeri to their respective stations and fortify the positions. Surround with a cordon the high mountains, the caves, the woods, the rivers, the forest crags and the refuges, and carefully stop up the blockaded lines of access. In a short while, the ungodly tribe of the Mazaces (ie. the Moors) will pass away and be exterminated through hunger: if, with its soldiery expelled, it is unable to pillage [our] houses it will either submit to our arms and seek peace or, fleeing, will search the farthest regions of the earth and abandon our borders. The greatest concern of the two duces of Byzacium shall be to pursue and harry the affrighted Massyle forces with their troops, to press hard with their swords the unfortunate hordes and to drive the enemies from our territory' (*29).

In Carthage John was accorded a hero's welcome by the populace. Corippus paints a vivid picture of the procession of bewildered Moorish captives, passing through the city on their way to the slave market. The standards of Solomon, retaken from the Moorish camp, were sent to the emperor (*30).

The peace thus established in Byzacium, however, did not last through the following year (*31). Corippus represents the cause of the Moorish revolt which erupted from Tripolitania in the summer of 547 as the desire of the Leuathae for revenge after their humiliating defeat and the loss of their women, children and cattle (*32). A more practical reason for the nomads' desire to move north into Byzacium at this time of year, however, is suggested in John's own words quoted above, namely that there were insufficient food resources available to them in the oases of Tripolitania. As soon as the spring harvests had been gathered, therefore, the tribesmen of these regions

II.6.

collected together their families and flocks under Carcasan, the leader of the Leuathae, and fell on the Romanized settlements of coastal Tripolitania. The dux of the province, Rufinus, sent an urgent message for help to John at Carthage (*33).

The difficulties facing the magister militum were grave. It seems likely that the attack mounted by the Visigoths of Spain on Septem, which is recorded by Isidore of Seville, took place earlier in the same year; it may indeed have been this which led to the reduction in the cavalry strength of the Byzantine field-army, between the winter of 546/547 and the summer of 547, from eight to five brigades (agmina). The Visigoths, however, were beaten back. Under their king, Theudis, they had managed to gain possession of the castrum of Septem, but while they were at Sunday prayer the Byzantines mounted a surprise attack and destroyed their army, cutting it off by land and sea. Shortly after this ignominious defeat, Theudis was assassinated in June 548 (*34). The strength of John's army in Africa was further reduced by the failure of Ifisdaias to respond to his appeals for help (*35). Cusina, however, answered his call (*36), and the Byzantine frontier troops were gathered together from the garrison points which they had occupied since the end of the previous campaign (*37).

It was midsummer, but because of the devastation suffered earlier by the province the harvest yields of Byzacium were insufficient to support a large army in the field. Nevertheless, John hoped that, by making with all speed to the border with Tripolitania, he could head off the Moorish advance and save what there was of the year's harvest (*38). But Carcasan had already crossed the frontier (*39).

II.6.

On the approach of the Byzantine army, the Moors retreated southwards towards the Fezzan, across the dry wastes and sands of the western Tripolitanian desert (*40). John followed them, but his troops, unaccustomed to desert travel, suffered accordingly; furthermore, the army's provisions of food and water were inadequate, and a heavy toll was taken of cavalry horses in particular. In view of this, the Byzantine army was forced to withdraw to the coast, where it took up position beside a river, probably a short distance south of Tacapes (Gabès); in this position John was able to guard the corridor which gives access to Byzacium between the Matmata plateau and the sea (*41). This was the territory of the Astrices, who sent representatives to the Byzantine commander to seek peace and renew their allegiance to the emperor; their loyalty, however, remained suspect (*42). To add to John's difficulties, unfavourable winds from the south prevented supplies reaching the army from the coastal cities of Byzacium, and a number of his troops, the majority of whom were already mutinous on account of what they considered an unnecessary ordeal in the desert, began to desert (*43).

The nomads were meanwhile blockaded in the oases and suffering from lack of food and water. When they realised that their pursuers had withdrawn, however, they attempted once more to break out towards the north. John first heard of their movement when Byzantine and allied scouts reported seeing camp fires to the south of the Byzantine camp; but it was uncertain at first whether these belonged to the Leuathae or to the Astrices (*44). Although John was hesitant about moving camp, Cusina, identifying the Moors as Leuathae, urged him to advance south and take up position behind a certain river,

II.6.

whose deep bed and wooded banks would serve as an easily defended barrier. Although he remained apprehensive, John agreed to move south, and soon the dry hills and plains of Gallica came into view (*45). Although the identification of the topographical features is not firmly established, it seems likely that John's advance was along the coast road towards Lepcis Magna and that the river was one of the series of water courses, such as the Oued Zigzaou or Oued el-Zeuss, which cut across the corridor between the Matmata plateau and the sea. The battle took place in the vicinity of Marta (Mareth) (*46).

The two armies took up position on either side of the river, but, as John was making camp and posting men to defend the north bank of the river, the Leuathae withdrew. In disregard of John's orders, some of the Byzantine troops gave chase, but, although they gained an initial success, John resolutely refused to commit his main force (*47). Appreciating the danger caused by the ill-timed and uncoordinated attack, however, he drew up the rest of his army in battle order to defend the bank if it should be attacked. On the right he put Cusina, commanding both Massyles and Romans, together with Fronimuth and John senior; on the left, Putzintulus, Geiserith and Sinduit; and in the centre, he himself took up position with his own cavalry, behind the infantry commanded by Tarasis (*48). His forces were restless, however, seeing the enemy in flight pursued by their comrades; two men in particular, the bucellarii (armigeri) Ariarith and Ziper, urged John to commit his remaining forces to battle. John at length gave in to their demands and set the seal on the disaster that followed (*49). The river bed, chosen by the Byzantines as a defensive position, now placed them at a considerable disadvantage when they moved

II.6.

to the attack. Carcasan's main force, which had played no part in the skirmishing, fell on the Byzantine troops as they clambered up the opposite side of the wadi bed, and the fighting raged amongst the tamarisks and oleasters. Part of the Byzantine force that had not yet begun to cross the river turned and fled, as did the Moors under Cusina. While the Leuathae pursued them across the plain, only a small force under John himself stood firmly on the field and thereby prevented the total destruction of the army (*50).

With what remained of his army, John was able to retreat in good order to within the walls of a small town on the coast (*51). The sirocco, which had previously prevented supplies from reaching the army by sea, had now spent itself. Hearing that some of his forces had reached Iunci, further north along the coast, John therefore withdrew there to join them, following the coast so as to be in constant contact with his supply ships and sending word for the other survivors to meet at the same place. (*52). From Iunci the remnants of the army made its way to Laribus, in the mountainous region of Numidia Proconsularis, on the main road leading from Carthage to Theueste. The position was well chosen: it commanded good communications with the capital and with the parts of Numidia from which the Byzantines drew their Moorish support; and it lay on the edge of Byzacium and the area over which Antalas ruled. The town also had strong ramparts built by Solomon and enclosing over 4 ha. (*53).

While the Byzantine army was sheltering at Laribus, the Leuathae were given a free rein in Byzacium. According to Procopius, they joined forces, as before, with the Moors of Antalas and overran Byzantine Africa as far north as the environs of Carthage itself (*54).

II.6.

During the winter of 547/548, the strength of the Byzantine army was gradually built up in preparation for a decisive campaign planned for 548. From Carthage the prefect Athanasius, assisted by John's son Peter, collected troops and supplies of corn and armaments and dispatched them down the road to Laribus (*55). John sent John Stephanides to patch up a quarrel that had arisen between Cusina and Ifisdaias. This mission proved so successful that when, in the following year, the Leuathae and Austuriani again appeared in Byzacium, a force of Moorish allies, put by Corippus at some 150,000, had been gathered together in the plain of Arsuris (*56): they included Cusina, now distinguished by the title of magister militum and surrounded by a bodyguard of Byzantine troops presented to him by the emperor, besides 30,000 of his own men; Ifisdaias with 100,000 men; Iaudas, accompanied by his son and 12,000 men; and Bezina, an unknown personality, whom Corippus calls praefectus and who was accompanied by an undisclosed total of flocks and men (*57).

In midsummer, John advanced with his whole army south-eastwards through the passes of the Dorsal towards *Mamma (*58), where the Leuathae and Austuriani under Carcasan were raiding. As the Byzantine army advanced, the Moors retreated, following tactics similar to those of the previous year. As the Byzantines followed them across the barren steppe, both sides suffered badly from the lack of food and water; in addition to these discomforts, the sirocco was again blowing hot from the Sahara. After ten days of march, John sent the numerus commanded by Liberatus Caecilides on ahead to survey the terrain. By this time, the Moors were pillaging the lands around Iunci on the coast (*59). Leaving his escort behind, Liberatus

II.6.

passed through the Moorish lines and reached the blockaded town, which he found in a sorry state, lying exposed to attack and defended only by Providence and the fiery eloquence of the priest. After making a tour of inspection of the Moorish encampments, Liberatus rejoined his troops. On their way back towards the Byzantine camp, however, they ran into a party of Moors commanded by Varinnus. In the skirmish a number of Moors were killed and Varinnus and three others taken prisoner. The catch was a profitable one, for, before he hanged all four of them, John was able to discover from the Moors that Carcasan's retreat was only a feint designed to lead him into a trap (*60). With this knowledge John decided to occupy the coastal plain and thereby deprive the Moors of their food supply; as anticipated, they retreated without a fight, and John marched south on their heels until he reached Lariscus (La Skhira), some 40 km. south-west along the coast from Iunci (*61). Here the Byzantine forces were stationed in the town and supplied by sea, while the Moorish allies camped in the area around. Meanwhile, Carcasan and Antalas, deprived of the corn and pasture of the sahel, retreated to the mountainous regions south-west of Lariscus (*62).

While the army was encamped at Lariscus, a mutiny in the Byzantine ranks threatened to put in jeopardy the successful outcome of the campaign. With the help of Cusina, however, John was able to restore order without recourse to violence (*63). The Byzantine army then advanced down the coast before turning inland to reach the campi Catonis (*64). Since the Moors, deprived of corn, were reduced to living off their flocks, John was in no hurry to attack them. His plan was to advance after divine service on the following day, which

II.6.

was a Sunday, so as to be in a position to attack the enemy in the region of *Latara on the Monday (*65).

Carcasan, however, having received support from some local tribes and knowing that John would attack him before long, decided to take the initiative himself by attacking the Byzantine army on Sunday morning when, he thought, they would be least prepared. The Moorish attack only got under way, however, after the Sunday service was over and John had arranged his line of march (*66). The Byzantine army was formed up into three divisions: the first consisted of Cusina's Moors and Byzantine bodyguard, together with the brigades of Putzintulus and Geiserith; the second, of the brigades of Sinduit and Fronimuth, together with the Moors of Ifisdaias; the third was commanded by John himself, and presumably consisted of his bucellarii (*67). The Moors directed their initial attack against John's division, but their greatest weight was soon felt by Cusina's, which seems to have been in the lead. Cusina formed his men into a wedge formation and managed to resist the attack until help arrived. In the ensuing battle, the enemy force, comprising tribes from Tripolitania as well as those of Byzacium, was completely destroyed. John himself is said to have killed Carcasan, and sixteen other Moorish leaders perished in the slaughter. As a result of the Moorish defeat, Antalas was forced to submit on humiliating terms (*68).

After the battle of *Latara, John was made a patrician (*69). Little is known of the remainder of his term of office in Africa. This is partly due to the fact that the two principal sources for the history of Justinianic Africa, Books III and IV of Procopius's de Bellis and Corippus's Iohannidos, do not continue after 548, and partly

II.6-7.

because the period was probably one of peace, taken up with the slow and patient reconstruction of the provinces, Byzacium in particular, which had suffered through the four years of continual warfare and devastation (*70). John remained magister militum Africae until 552 at least. In the autumn of 551, he dispatched a fleet with an armed force to Sardinia, which, together with Corsica, had been seized by Totila's Huns. The force was defeated at Caralis by the Hunnish garrison, and returned to Carthage; the following year a second expedition seems to have taken possession of the islands with no difficulty (*71). By September 552, the prefect Athanasius, who is last mentioned in 548, had been replaced by Paul (*72). John may perhaps have died or have been replaced at around the same time; the silence of the sources is perhaps the greatest testimony to the lasting effect of his military achievement.

7. The later sixth century and the reforms of the emperor Maurice (c. 552-602).

The peace established by John Troglitas lasted well after his death in around 552 and almost to the end of the reign of Justinian (14/15 Nov. 565). In consequence, little is known of the military history of these years (*1). Two laws concerning the colonate, however, give the names of the praetorian prefects holding office in September 552 and September 558 as Paul and John respectively (*2); and a third prefect, Bocetius, is mentioned in an undated letter of pope Pelagius I (555-560) (*3).

It is recorded by Agathias that by the latter part of the reign of Justinian, the strength of the armed forces stationed in both the

II.7.

eastern and western provinces of the empire had been reduced, largely through neglect, from the figure of 645,000 recorded under the earlier emperors to barely 150,000 (*4). Although the manner in which they are presented suggests that these figures are somewhat exaggerated, there are good reasons for accepting their general veracity. The earlier figure would doubtless have been derived from an official document of the period before 395, when the administration of the empire was split into two (*5). The latter one, however, makes sense, as A. H. M. Jones has argued, only if it is taken to apply to the regular troops alone, excluding, that is to say, the limitanei (*6). If this interpretation is accepted, then the cataclysmic effects of the reduction that have been adduced by some writers (*7) no longer seem warranted, since the strength of the regular troops stationed in the same provinces (excluding Spain) in the Notitia Dignitatum was only 170,000 (*8). In Africa, however, it would seem likely that the regular garrison in the mid-sixth century was relatively small (*9), and, as has been noted already in the campaigns of John Troglitas, an increasing reliance would have been put on diplomacy and on keeping the peace by playing off one tribe against another (*10).

In December 562, when the faithful ally of John Troglitas, Cusina, came to receive his customary payment from the emperor's representatives, he was unexpectedly assassinated for reasons which remain obscure on the orders of the ἀρχων, John Rogathinus (*11). Cusina's sons raised the standard of rebellion, but the trouble seems to have affected only certain parts of Africa, most probably Numidia. Order was restored by an army sent from Constantinople under the command of a new magister militum Africae, Justinian's nephew Marcian (*12).

II.7.

It was probably in the aftermath of this revolt, either in 564 or 565, that Justinian appointed Thomas as prefect (*15). Corippus describes Thomas as the 'support of the tottering land of Libya, who raised it up when it had fallen, gave the hope of life to the Africans, made peace, put an end to war without fighting and conquered by council those whom no one had conquered by arms' (*14). This would seem to indicate that Marcian's army was withdrawn once the campaign was over and that the Moorish tribes that had taken part in the revolt were persuaded to renew their treaty relationships with the Byzantine government (*15).

The accession of Justin II, in November 565, seems to have brought fresh life back into imperial administration, which had been somewhat neglected during the latter years of Justinian's reign through the emperor's preoccupation with religious controversy (*16). How far Justin's attempts to put in order the civil and military organisation of the eastern provinces were matched by a similar concern for the west, however, remains uncertain (*17). Nevertheless, a statue of the emperor, set up in Carthage by the uir clarissimus Lucius Map[...], suggests that Africa received some benefit from the new reign (*18); and in 566-567, the poet Corippus, who had left Africa for Constantinople after 548, addressed his epic-styled panegyric to Justin (*19). This work is prefaced by a panegyric to the quaestor and magister officiorum, Anastasius, in which Corippus writes, 'Although your concern is for the world as a whole, the unhappy Africans especially raise their eyes and faces to you. Africa gives thanks and already feels your aid, and rejoices because the citizens are continually talking about the generous comforts they have received from Anastasius' (*20). Corippus himself, however,

II.7.

appears to have suffered the loss of most of his possessions when he departed from the land of his birth (*21).

More tangible evidence for the concern of the new administration for Africa may be found in the defensive works erected at Thubursicu Bure (565-569) and, probably, at Tignica (*22). There is also evidence for activity in the diplomatic sphere. In 569 (or 568), the Garamantes of the Fezzan sent ambassadors to seek peace with Byzantium and acceptance into the Christian church (*23). In the same year, the Maccuritae, a tribe possibly inhabiting Mauritania, also became Christians. Four years later, a treaty of friendship was also formalized with this tribe, when their ambassadors arrived in Constantinople, bearing gifts of ivory (dentes elephantini) and a giraffe for the emperor (*24).

In the same year that the Garamantes and the Maccuritae were forming closer relationships with the empire, however, the praetorian prefect Theodore was killed by the Moors ruled over by the chieftain Garmul (*25), and in the two following years, 570 and 571 (or 569 and 570), two magistri militum Africae, Theoctistus and Amabilis, shared the same fate (*26). The area affected by this revolt is uncertain, though it would seem more likely to have been Numidia and Byzacium than Mauritania Caesariensis as suggested by Diehl (*27). The effects of the revolt appear to have been severe and, from what it is possible to tell from the meagre documentary sources of this period, insecurity may have lasted almost continuously until the end of the century. In 571 (or 570), the monk Donatus, together with seventy of his companions, abandoned Africa, where life had become impossible for them, to seek refuge in Spain (*28). Marius of Avenches even refers to Moors

II.7.

raiding Provence in 574, where the Lombard invasions had already caused considerable disruption (*29); however, these Moors may perhaps be identified with the Barbaricini, a Moorish people inhabiting Sardinia, who posed a continual problem to the Byzantine authorities there (*30).

In 574, oppressed to the state of nervous collapse by the weight of administration and by the military disasters on the eastern frontier, during a lucid moment, Justin II raised Tiberius, the comes excubitorum, to the rank of Caesar. When Justin died, four years later on 5 October 578, Tiberius succeeded him and adopted the name Constantine (*31). Either in his capacity of Caesar, or as Augustus, Tiberius made two important appointments in Africa: Thomas, who had served the province well some years earlier, was brought back as prefect (*32) and Gennadius became magister militum Africae (*33).

Nothing is known of the course of the campaign against Garmul (*34). It is possible that some of the 15,000 mercenary troops raised by Tiberius in 577/578 were directed to Africa (*35), though in 578 he had been forced to send 30 centenaria of gold to the prefect of Italy with which to buy off the Lombards, because of the impossibility of fighting a war in the east and in the west at the same time (*36). In 578, however, Gennadius succeeded in soundly defeating the Moors and in killing Garmul with his own hand (*37). The system of fortifications was extended during Tiberius's reign, with new works erected at Iunci Sofiana (completed during Justin II's lifetime), Aïn el-Ksar, Mascula Tiberia, Anastasiana (Hr. Sguidan) and Tubernuc (*38). A novel of 11 August 582, confirming the ruling whereby the son of an adscriptitus and a free woman was deemed not to

II.7.

be free, shows that Thomas had by then been replaced by Theodore as prefect (*59).

Tiberius II Constantine died on 14 August 582, having only the day before crowned as Augustus Maurice, the former commander-in-chief of forces in the east (*40). That the military situation in Africa was once more being brought under control in the early years of the new reign is supported by Theophylact Simocatta's statement that in 584 the power of the Moors was diminishing as they came to lay down their arms (*41). In 587, however, Moorish disturbances again erupted over the whole of Africa (*42). It is likely to have been due mainly to the continuing state of unrest in Africa that the administration of the prefecture was reorganized during the reign of Maurice, and an exarchate established on lines similar to those followed in Italy a few years earlier (*43).

Under the provincial organization set up by Justinian (*44), the praetorian prefect had in theory held supreme authority in Africa. In practice, however, the need to maintain the provinces for long periods on a war footing had often led either to the office of magister militum being given to men of superior rank to the prefects of their day (*45), or to both offices being vested in the same person (*46). In appointing an exarch, who, like the governors general of North Africa's more recent history, took control both of the civil and military aspects of the administration, Maurice was therefore in a sense only making more permanent an administrative device that had previously been used only as a temporary expedient. The creation of the exarchate of Africa took place between 6 May 585 (*47) and July 591, when the magister militum Gennadius was promoted to become the first exarch (*48).

II.7.

Some idea of the authority and scope of activity of the exarch in the reign of Maurice may be obtained from the letters of pope Gregory the Great (*49). Like the magister militum, whom he replaced (*50), the exarch was commander-in-chief of all the armed forces within the exarchate (*51). His authority over the civil sphere, however, is attested by references to Gennadius, as exarch, taking an active interest in agriculture, the running of the imperial domains (*52) and in the collection of taxes (*53); he could also intervene in ecclesiastical affairs (*54) and took a leading rôle in implementing the laws against the Donatists (*55). The exarch's officium included a cancellarius, who dealt with judicial matters (*56). The prefect of Africa still continued as head of the civil administration; but in all matters he was now subordinate to the exarch. His authority, however, seems to have extended over the same field as before, including taxation (*57), the equipping of military expeditions (*58) and the construction of military works (*59).

Below the exarch and the praetorian prefect ranked the military commanders (duces, magistri militum) and civil governors (praesides, iudices) of the duchies and provinces respectively, which, it may be assumed, were, geographically speaking, the same thing (*60). Even at provincial level, the military commanders were superior in rank to their civilian counterparts, the former being qualified as uiri gloriosi (*61), the latter as uiri magnifici (*62); and with or without the sanction of law they, like the exarch, may be seen interfering in affairs such as taxation that would at an earlier date have been considered the sole responsibility of the civil governor (*63).

The names and extent of the civil provinces during the reign of

II.7.

Maurice are set out in the Descriptio Orbis Romani of George of Cyprus. The interpretation of this text, however, is not without its problems. Although the date of its compilation is probably to be set between 591 and 603, it appears to have been based on an unknown fifth-century source, while some of the detailed information that it contains regarding the eastern provinces was added as late as the ninth century (*64). Neither is it very clear whether the state of Africa that it presents relates to the period just before or just after the creation of the exarchate, since the relevant section is set out under the prefect of Africa, no mention being made of the exarch (*65). In spite of these difficulties, however, and of the fact that Africa receives only partial treatment, the Descriptio remains, for want of any better, an important source for approaching an understanding of the political geography of Africa in this period (see Map 6).

By the end of the sixth century, the prefecture, and probably also the exarchate of Africa, comprised six civil provinces (ἐπαρχαί), which, with the exception of Tripolitania, which had been detached to form part of the diocese of Egypt (*66), corresponded in name with those reconstituted by Justinian in 534 (*67). Certain changes, however, may be detected in their geographical extent, some of which may already have been brought about before the end of the reign of Justinian. With the exception of Carthage, whose name survives in that of the province, the list of towns for Carthago Proconsularis had been lost (*68). Those in Numidia Proconsularis, however, are included by George of Cyprus, as they had been by Procopius in de Aedificiis (553-555) (*69), within the province of Numidia; they include Calama, Castra Ammaedara, Hippo Numidiae, Laribus, Scillium, Theueste

II.7.

and Vaga (*70). The other towns listed for Numidia are Badias, Castra Bagai, Constantina, Mileu, Sitifis, Tigisi (*71) and the unlocated site of Ἰζιριανήσιον (*72). The inclusion of Sitifis within Numidia is already made by Procopius in de Aedificiis, which suggests that the inland parts of the former province of Mauritania Sitifensis had become attached to Numidia by 553/555 (*73). In Byzacium, George lists Capsa, Castrum Sufetula, Cillium, Cululis, Hadrumentum, Iunci, Madarsuma, Mamma, Sufes, Thapsus (?) and Thelepte (*74), besides three unlocated sites, Κασκαλάναι (*75), Καστέλλια (*76) and Πέτζανα (*77).

Mauritania Prima seems now to have taken in all the coastal regions of the former provinces of Mauritania Sitifensis and Mauritania Caesariensis; only one town, however, which may perhaps be Rusuccuru (*78), is mentioned, though there were doubtless more (*79). According to George of Cyprus, the province of Mauritania Secunda took in Septem (*80), the parts of Spain that belonged to the empire, and the two islands of Minorca and Majorca (*81). Goubert, however, argues that the supposed attachment of Byzantine Spain to Africa would be difficult to envisage between 550 and 624/634, since the three known military commanders in Spain during this period, Liberius (551-554), Comentiolus (589/590-(600)) and Caesarius (c.615), were all of patrician rank and would therefore have been of equal standing with the magister militum or exarch of Africa (*82). The argument is not conclusive, however, since in 633 the dux Numidiae was also of patrician rank (*83). Nevertheless, in view of the particular military problems facing Spain, it would seem plausible for the military commander there to have been allowed to exercise a greater degree of independent action than his counterparts in Africa proper; and,

II.7.

indeed, the patrician Caesarius may be seen dealing directly with emperor Heraclius and with the Visigothic king, apparently without reference to the exarch in Carthage (*84).

The sixth province of Africa, Sardinia, is one about which we are better informed, thanks to the interest taken in it by pope Gregory. George of Cyprus lists eight towns, including the capital Caralis (*85). The names of four military commanders of the duchy are known, Edantius (589) (*86), Theodore (591)(*87), Zabarda (594)(*88) and Eupaterius (598) (*89). Corsica, though not included in the Descriptio, fell within the same province and was governed by a tribune, who took charge of both the civil and military affairs of the island (*90).

The administrative overhaul of Africa allowed the war against the Moors to be pursued with some signs of success. John of Nikiu records a victory won on the banks of the Nile by the augustal of Egypt, Aristomachus, over the barbarians of Africa and Nubia, whom he calls Mauritians and Māzīkōs (*91). Troops were possibly spared from the eastern frontier, after peace had been established there in 591 (*92), for in the same year Gregory the Great alludes in his letters to the victories won by Gennadius and to his efforts in extending the Christian faith to the conquered peoples (*93). In 595, however, when confronted in Carthago Proconsularis by a superior force of the enemy, Gennadius had recourse to a ruse: he pretended at first to accede to the Moors' demands, but then, while they were celebrating their easy success, he fell on them with his army and thus brought the war to a close (*94). The fort at Limisa was built during the exarchate of Gennadius, and those at Bordj el-Ksour and, probably, at Agbia also date to the reign of Maurice (*95). The population of Byzantine Africa, however, was not to be spared further tribulation by Genna-

II.7-8.

dius's victories, for in 599 the plague reappeared in the provinces and lasted for at least a year (*96).

The last mention of Gennadius is made in September/October 598 (*97). The names of three praetorian prefects are known during the latter part of Maurice's reign. One, John, is mentioned together with the patrician Gennadius on the inscription from Limisa (*98). In July 594, the prefect was Pantaleon (*99). In July 600, however, pope Gregory wrote to a different prefect of Africa, Innocent, congratulating him on his appointment and inquiring about the preparation of a fleet of dromones, which was needed to protect Sardinia from a threatened Lombard invasion (*100). In 602, a mutiny amongst the forces stationed on the Danube frontier led to the fall of Constantinople to a rebel army under Phocas, who was crowned as emperor on 23 November 602. Maurice was executed a few days later (*101). On the evidence of Nicephorus it seems that Heraclius, the father of the future emperor, was appointed as exarch of Africa before the revolt which deposed Maurice (*102). Unless there was an interim governor, whose name has been lost, Heraclius would therefore have replaced Gennadius as exarch between September or October 598 and November 602.

8. The seventh century.

The emperor Maurice had left the exarchate of Africa covering roughly the same area as that covered by the prefecture of Africa at the time of Justinian's death, almost forty years earlier. Within seventy years, however, Tripolitania and most of Byzacium would be irrevocably lost to the empire; within another thirty, the ancient city of Carthage would fall for the last time; and twelve years after

II.8.

that, Byzantine rule would be extinguished altogether in Africa. Although impending disaster was sensed by some in Carthage as early as 634 (*1), the picture of Byzantine Africa that emerges from the somewhat scanty documentary and archaeological sources for the early seventh century show a province at last enjoying relative stability and even prosperity (*2). While the eastern provinces of the empire were attacked and in part overrun by Avars, Slavs, Persians, and Arabs and those in the west by the Visigoths and Lombards, the central Mediterranean area offered a temporary sanctuary, away from the battle fronts, to which at least two seventh-century emperors considered permanently transferring their capital.

The patrician Heraclius was already passing sixty years of age when he received the exarchate of Africa from Maurice. Born into an aristocratic family, probably at Theodosiopolis in Armenia, he had followed a successful military career in the Persian wars and, in 584, had become commander-in-chief of Byzantine forces in Asia Minor. It was probably in recognition of his faithful service as well as for his friendship with the emperor that Maurice appointed him exarch of Africa and at the same time made his brother, the patrician Gregory, his second-in-command (*3).

Heraclius is unlikely to have received very favourably the news of the murder of Maurice and, later, of Maurice's family (*4). While others in Constantinople and the east openly displayed their opposition to the new régime of Phocas, however, and accordingly paid the penalty, the exarch bided his time, but maintained secret contact with members of the senate and with the comes excubitorum Priscus (*5). Either because he suspected nothing or, more probably, because he still hoped for Heraclius's support and foresaw difficulties if he

II.8.

tried to dismiss him, Phocas retained the exarch in office (*6). In 608, however, Heraclius decided to act, and promptly cut Constantinople off from its supplies of African corn and oil (*7). In order to make the economic blockade of the capital more effective, however, and also so as to guard against the possibility of a counter attack launched against him from that quarter, Heraclius made Egypt his first military objective. In the autumn of 609, an army under Nicetas, the son of Gregory, supported by the Egyptian party opposing Phocas, took and successfully defended Alexandria. By spring of the following year, the whole of Egypt was in Nicetas's hands (*8).

The merchant fleets of Africa and Egypt were now put to a new use as troops and volunteers were gathered from the provinces to take part in a sea-borne expedition (*9). The fleet sailed in the spring or summer of 610, under the command of Heraclius's son, also named Heraclius. After following a laborious course across the Mediterranean and through the Aegean, it reached Constantinople on 2 October and penetrated the Sophiana harbour. Three days later, Phocas, dragged before Heraclius by a crowd of citizens, was beheaded; and, later the same day, the young Heraclius was crowned emperor in the palace church of St. Stephen and acclaimed by the senate and the army in St. Sophia (*10).

The relative stability of the military situation in Africa in the early seventh century is shown not only by the way in which the provinces could be denuded of troops to supply the armies of Nicetas and Heraclius, without it apparently endangering their security, but also by the evidence that Moors as well as Roman provincials joined the army of the dux Tripolitaniae that fought in Egypt (*11). After 610,

II.8.

Africa found itself with a powerful advocate at the imperial court in the person of the emperor himself; and, although she was to die within two years, the empress Eudocia whom Heraclius married on the day of his coronation was also an African, Favia the daughter of Rogatus (*12). When, in 617/618, the Persians stood at the gates of Chalcedon and famine broke out in Constantinople on account of the loss of Egypt, it is said that only the intervention of the patriarch Sergius prevented the emperor taking ship for the safety of Carthage (*15).

It is unfortunately impossible to tell whether or not Africa gained any practical benefit from the accession of Heraclius. Indeed, despite the decisive rôle played by its exarch in the rebellion of 608-610, the chroniclers give little information about events in Africa itself. Between the time of the accession of Heraclius and the first appearance of Arab raiders in Byzantium, the sources are even less informative. It is therefore not known precisely when the exarch Heraclius died, though John of Nikiu mentions that he did so while still in office sometime after the coronation of his son (*14). Neither is his successor known (*15). The next exarch to be recorded is Nicetas, the emperor's cousin and close friend, who took office probably soon after leaving Egypt when it fell to the Persians in 619 (*16). The dynastic bonds that linked Carthage and Constantinople were further strengthened by the marriage that took place between Nicetas's daughter, Gregoria, and the heir to the throne, Heraclius Constantine (*17). Apart from the name of the exarch, however, next to nothing is known of Africa during this period, and although Nicetas is known to have died by 628/629, it is not known who succeeded him (*18). The name of the prefect in 627, however, was Gregory (*19).

II.8.

The next exarch of Africa to be recorded is Peter, who in 636 was referred to on a reliquary inscription found near Constantina as patriciho (abl.) ac africana probincia (*20). A few years later, in 633 or 634, the same patrician Peter, as dux Numidiae, had at first hesitated and then, following the advice of Maximus the Confessor, refused to carry out an imperial order to lead the men under his command to Egypt, which was at that time threatened by the Arabs (*21). Nothing is known of Africa during the period in which Peter was exarch. The latest document which appears to relate to him, however, is an epitaph from Sufetula, recording a Petrus eminentissimus, who died on XV Kal. Iul. of Indiction X (637) (*22).

No other exarch is mentioned before 645. By then, the military situation in Africa had become precarious, with Tripolitania already subject to Arab raiding and African Christians on the verge of schism with Constantinople. In 642/643, Oea and Sabratha were both sacked by ^cAmr ibn al-^cAsi (*23). The Arab conquest of Syria and Egypt, between 632 and 642, had already caused the flight of many easterners to Africa, where they were welcomed by the prefect George, surnamed Glycas (*24). The refugees, however, included a certain number of monophysites. Stories soon began to circulate of proselytism amongst the orthodox community, such that the prefect and the bishop of Carthage found it necessary to raise the matter with the emperor. Constantine III, who had succeeded Heraclius in February 641, took a more strictly orthodox line on religious questions than his father, and ordered that the clergy in Africa who persisted in their heresy should be deprived of their possessions and be confined in catholic monasteries (*25). At the end of May 641, however, Constantine III died, allegedly poisoned by the dowager empress Martina, and was

II.8.

replaced by Martina's own son, Heraclonas. Under the new régime, monotheletism, the doctrine published by Heraclius in his Ecthesis of 638, came back into favour at the imperial court. In November 641, the chancellor Theodore arrived in Carthage with orders for the prefect to abandon his pursuit of recalcitrant monophysites and to release those who had been imprisoned (*26). George, however, on receiving the imperial letters, declared them to be apocryphal and commanded the governors of the African provinces to disregard them (*27). Shortly afterwards, when he was summoned to Constantinople to answer for his conduct, the outcry amongst the Africans showed all too clearly the extent of the popular feeling which characterised the developing rift between Africa and the central government (*28).

The exarch of Africa in July 645 was the patrician Gregory (*29), who may already have been holding office since before the death of Heraclius in 641 (*30). Gregory, like the prefect George, was a defender of orthodoxy and a supporter of Maximus the Confessor, one of the most outspoken opponents of monotheletism who had sought refuge in Africa sometime before 640 (*31). He may also have been the brother-in-law of Constantine III (*32). In 646, episcopal councils in Numidia, Byzantium, Mauritania and Proconsularis unanimously condemned monotheletism and communicated their verdicts to the emperor, the patriarch of Constantinople and the pope. Early in 642, Martina and Heraclonas had been overthrown and a new emperor, Constans II, the son of Constantine III, had been proclaimed (*33). At the same time that the African councils were condemning monotheletism, however, the new emperor, while attempting to find a solution to the religious dispute which threatened to break apart the empire, seemed

II.8.

to Africans to be on the verge of giving way to those who followed the heresy. Late in 646 or in 647, therefore, Gregory proclaimed himself emperor (*54).

The usurpation of power by the exarch received widespread support from the provincials and from a number of Moorish tribes. Although some African churchmen appear at first to have been apprehensive about the adoption of so drastic a remedy to the religious dispute with the emperor, it was later said in Constantinople that the pope Theodore had also been a party to Gregory's decision (*35). The motives which prompted Gregory to take the action that he did, however, were not simply religious; nor, in view of the popular support that he attracted, does personal ambition appear to have played a major part. While the eastern provinces of the empire were being submerged by the advance of Islam, usurpers also raised their heads in Italy and Armenia. Africans may therefore have felt with some good reason that their interests could best be served by severing the ties that bound them to a weak and crumbling empire (*36).

It was evidently to meet the Arab threat that Gregory moved his military headquarters to the forward position of Sufetula, in Byzantium. Like Theueste, the base chosen by Solomon in 544, Sufetula was well positioned to serve both as a rallying point for forces drawn from the garrisons and Moorish tribes of Numidia, Proconsularis and Byzantium and as a base from which to head off Arab or Moorish attacks on the prosperous belt of Romano-Byzantine settlements, which extended along the south-eastern flank of the Tunisian Dorsal (*37). Sufetula had an added advantage over Theueste, however, in that it also commanded good road communications with the principal coastal towns of

II.8.

the province; the coastal area was also to be a prime target for the Arab raiders. Besides the strategic considerations which may have influenced Gregory's choice of headquarters, however, there are also grounds for thinking that Sufetula may already have been an important Byzantine military base when the exarch (?) Peter died there in 637 (*38). The army of Byzantine and Moorish forces that Gregory commanded is put by the Arab sources at the exaggerated figure of 120,000 to 200,000 men. The same sources also state that Gregory's authority stretched from Tripoli to Tangiers, suggesting that, after the fall of Egypt, Tripolitania was once more joined to the exarchate of Africa (*39).

Despite the success of Arab raids into Tripolitania and the Fezzan, permanent Muslim expansion further west than Barca had been forbidden by the khalif ^CUmar ibn al-Khattāb. ^CUthman, however, who succeeded ^CUmar in 644, broke with this policy by authorizing ^CAbd Allah ibn Sa^Cd, the governor of Egypt, to carry out a raid into Ifriqiya itself. In 647, Ibn Sa^Cd, with 20,000 men, by-passed Oea, which closed its gates to him, and advanced across Byzacium to the region on the northern edge of the steppe where Kairouan was later to be built. As his force withdrew towards the south-west, it encountered Gregory's army in the plain of Sufetula and destroyed it, killing the patrician. The Arabs then sacked Sufetula and remained in Africa probably until the following year, plundering Byzacium and the region around the Chott el-Djerid. Finally, sometime before September 648, the magnates of Africa agreed to buy them off for a sum of money put by the Arab sources at either 300 quintals of gold or 2,500,000 dinars, on receipt of which Ibn Sa^Cd withdrew to Cyrenaica without establishing

II.8.

a qairawān in Africa (*40).

Gregory was succeeded by a man whose name is given in Arab sources as Ḥabāḥiyah or Janāḥah, which may perhaps represent the Greek name Gennadius (*41). The same sources tell how, when the emperor sent an official named Aulima to Carthage to levy a tax equal to the ransom paid to the Arabs, Gennadius, if such was indeed his name, evicted him. It seems possible, therefore, that Gennadius maintained the independence of Africa from Constantinople for some years after Gregory's death. In 663, however, the emperor Constans II established himself in Sicily and, in an attempt to build up the dwindling finances of the state, imposed heavy taxes on Calabria, Sicily, Sardinia and Africa (*42). It might seem more plausible, therefore, to see this as the moment which Gennadius chose for expelling the tax-collectors. Later, however, Gennadius himself seems to have been overthrown by a popular revolt, which replaced him with al-At^criyūn (Eleutherius ?) (*43).

The assassination of the khalif ^cUthman and the ensuing civil war in the east gave Africa a temporary respite. In July 660, however, the ^cUmayyad khalifat was established by Mu^cawiya. It is possible, as the sources seem to indicate, that a number of raids on Africa had taken place since that of Ibn Sa^cd in 646/647 (*44). The second major Arab expedition against Africa, however, was led by Mu^cawiya ibn Hudaij, the governor of Egypt, in 665. As in 647, the prime motive of the raid was booty. Mu^cawiya therefore made for the northern edge of the steppe and established a camp near to Cululis. While the Arabs were engaged in looting the surrounding region, however, an army from Sicily, under the command of the patrician Nice-

II.8.

phorus landed at or near Hadrumentum. Whether Constans had sent this force, which is put by the Arab sources at the exaggerated figure of 30,000 men, in order to suppress a revolt by the African provincials or to confront the Arab raiders is uncertain. The Byzantines, however, fled to their ships on the approach of a force under Ibn al-Zubair, which Mu^Cawiya sent against them, possibly without even engaging it. Ibn al-Zubair may then have defeated a sally made by the garrison of Hadrumentum, but was unable to gain access to the town itself. Having removed the opposition in the field, Mu^Cawiya proceeded to besiege Cululis, which eventually fell to him when part of its town wall unexpectedly collapsed, just when the Arabs were in the act of abandoning the siege (*45). Laden with their spoils, Mu^Cawiya's men retreated to Egypt the same year (*46).

In July 668, Constans II was assassinated in Syracuse and, while Constantine IV Pogonates hastened to the island to put down the revolt, he called for and received support from the garrisons of Italy, Africa and Sardinia (*47). The khalif Mu^Cawiya had meanwhile decided on the conquest of Africa and, in 669, while Mu^Cawiya ibn Hudaij attacked Syracuse from the sea (*48), ^CUqba ibn Nafi^C took command of Ifriqiya, which thenceforth was to constitute a separate province from Egypt. With the support of some of the Moorish tribes of Tripolitania, ^CUqba, with a force of 10,000 men, raided Capsa and the area around the Chott el-Djerid known as Qastiliya. He then advanced as far north as the site of the future Kairouan. Theophanes puts the total number of captives taken by ^CUqba at 80,000 (*49). The new capital of Ifriqiya, begun in 670, was to take five years to build. Whether a treaty was made with the Byzantines during this period is uncertain. It seems,

II.8.

however, that no attempt was made to interrupt the building work (*50).

^cUqba was recalled in 675 and replaced by Abu al-Muhajir, a less dashing general, though a more able diplomat, who succeeded in winning the support or submission of a number of Moorish tribes, including the confederacy ruled over by Kusaila, chief of the Aurès. In 681, ^cUqba returned to Ifriqiya and resumed supreme command. Meanwhile, however, fresh heart had been given to the Byzantines by Constantine IV's spirited defence of Constantinople between 671 and 677. Furthermore, the oecumenical council of 680 had finally resolved the religious differences that divided Africa from Constantinople. But although the thirty years' peace signed with the khalif in the east may perhaps have allowed Constantine IV to spare some troops for reinforcing western garrisons and although some attempts may also have been made to counteract the diplomatic activity of the Muslims amongst the Moorish tribes, there is no reason to believe that the Moorish tribes of the Aurès and Zab actually received new Byzantine garrisons at this time (*51).

In 683, ^cUqba set out on the march westward that was to become legendary. Unfortunately, the sources that give the most detailed account of this, as of other episodes of the Arab conquest, were written no earlier than the eleventh century. From Kairouan, however, ^cUqba seems to have proceeded west along the Roman road leading to Theueste (*52). At Bagai, beyond Theueste, the Moors and Romans of the region confronted him, but were beaten back inside their defences, which ^cUqba did not attempt to besiege (*53). Further west again, at Lambaesis, the local population had taken refuge within the town; but on ^cUqba's approach they attacked him and were repulsed. The

II.8.

Arabs, however, were unable to penetrate the fort (*54). Entering the Zab, the Arabs took Arabah with heavy losses; and at Tiaret the defenders, whom ^cUqba also defeated, included Rūm as well as Moors. The traditions which survive say that ^cUqba then continued as far west as Septem and Tangiers; it may be doubted, however, whether his march took him further west than the Oranie and the Oued Chelif (*55). On his return journey, ^cUqba divided his army and, with a force of only 300 men, he himself took the route south of the Aurès. At or near Thabudeos, in August 683, the Moors of the Aurès together with some Rūm, commanded by Kusaila, fell on his force and destroyed it (*56). For the Arabs in Ifriqiya, the death of ^cUqba was a catastrophe; Ifriqiya was abandoned and Kusaila's Moors occupied Kairouan (*57).

The khalif's response to the seizure of Kairouan by Kusaila was delayed by the outbreak of another civil war in the east. In the intervening period, however, the Byzantines were apparently able to overhaul their administration in the parts of Africa that still remained to them (*58). These would seem to have included no more than Carthago and Numidia Proconsularis, parts of Numidia and a number of coastal towns, extending as far west as Septem. In the late 680s, the loss of Kairouan was avenged. Zuhair ibn Qais, entrusted with an army by the khalif ^cAbd al-Malik (685-705), entered Ifriqiya between 686 and 688 and defeated and killed Kusaila at *Mamma, where Solomon had defeated the Moors over a century earlier. Leaving a garrison at Kairouan, Zuhair then returned to Cyrenaica, where he was killed by a Byzantine landing party (*59).

Ibn Zuhair was replaced in 688/689 by Hassan ibn al-Nu^cman al-

II.8.

Ghassani, who, at an uncertain date in the 690s, entered Africa at the head of 40,000 men and, after defeating a Byzantine army in Carthago Proconsularis and cutting the Zaghouan aqueduct, took the city of Carthage itself in 697. Although the event was of sufficient importance to gain mention in Greek as well as Arabic sources, there are some grounds for thinking that before the disaster occurred the administrative centre of the exarchate had already been transferred to Sardinia or Septem. A letter of Justinian II to pope Conon, dated to February 687, lists the provincial army-corps of the empire; instead of Carthage, however, it includes only references to the armies of Africa and Sardinia, based respectively at Septem and Caralis (*60). Furthermore, the mint of Carthage had already been moved to Sardinia before the fall of Carthage (*61). When Carthage fell, the population fled to Sicily, Spain and the western Mediterranean islands. Some of the Byzantine forces, however, rallied with Moorish support in the region of Sathura, north-east of the city, but were defeated by Hassan and dispersed, the Byzantines to seek refuge in the walled city of Vaga and the Moors to the mountains around Hippo Regius (*62).

The rallying of the Byzantine forces at Sathura that is mentioned by the Arab sources may simply represent a somewhat different version of the recapture of Carthage by the Byzantines, which is otherwise only mentioned in the Byzantine sources. An expedition to regain the city for the empire was quickly organized by the emperor Leontius and placed under the command of the patrician John. In 697, John's ships broke into the port of Carthage, which was defended as in 533 by a chain drawn across its mouth, and his men reoccupied the city and some of the surrounding strongholds (*63). The following year, how-

II.8.

ever, Hassan advanced once again on the city by land, while an Arab fleet approached it from the sea. The Byzantine fleet, sheltering in the harbour, was forced to take to the open sea to avoid capture and the city fell for the second and last time. John returned to the east with his army, while the remaining population fled in the manner already described. According to Ibn ^CAbd al-Hakam, Hassan found the city practically deserted (*64).

The defeat of the Byzantine army and the capture of their capital city did not immediately deliver Africa into Arab hands. Probably within the same year as the city's fall, Hassan was defeated on the banks of the Oued Meskiana near Theueste by the Jawara of the Aurès, led by their queen the Kahina, who then drove the Arab forces back beyond Tacapes into Tripolitania (*65). For three, or more probably five, years the Kahina controlled virtually the whole of the former Byzantine provinces of Numidia and Byzacium, and possibly much of Carthago and Numidia Proconsularis as well. Unlike Kusaila, however, whose forces had often included Roman Africans and on occasion perhaps even regular Byzantine troops, the Kahina's support was drawn principally from the nomadic Zanata. The plundering of settlements and farm land that took place during her period of rule may well have caused many of the sedentary Moors and Romans to side with Hassan when he returned. In the final engagement, fought in around 703 at Bīr al-Kahīna, the site of which is unknown, the Kahina's Moors were defeated and the queen herself killed (*66).

At the turn of the century, Byzantine possessions in the former exarchate of Africa included no more than Sardinia and Corsica, the Balearics, a few coastal towns in Spain and the town of Septem (*67).

II.8.

What remained of the former military commands of the exarch of Africa and the military commander in Spain and Mauritania II had already, by 687, been reorganized as two military commands, based respectively on Sardinia and Septem (*68). The last piece of African mainland to be held by the Byzantines was Septem itself. In 706, Musa ibn Nusair attacked it, but the garrison under its commander Julian held out. The same Julian, however, later became involved in the internal affairs of the Visigothic kingdom. In order to give assistance to Vitiza against a usurper named Roderic, he enlisted the help of the Muslim garrison under Tariq ibn Ziyād that Musa had installed at Tangiers, and, opening the gates of Septem, supplied them with the ships for the crossing (July 710/711). Only Arabic and western sources mention the fall of this distant outpost of the Byzantine empire (*69).

II. Appendix 1.

ORDER OF BATTLE OF THE BYZANTINE EXPEDITIONARY FORCE (A.D. 533).¹

Commander-in-chief : Belisarius²
 Prefect of the army : Archelaus³
 Assessor : Procopius⁴
 Domestic : Solomon⁵

Cavalry Belisarius	1,500	<u>comitatenses</u> ⁶ στρατιῶται	Rufinus ¹² Aigan ¹³ Barbatus Pappus
	3,500	<u>foederati</u> ⁷ φειδέρατοι	Dorotheus ¹⁴ Solomon ⁵ Cyprian Valerian Martin Althias John ¹⁵ Marcellus Cyril ¹⁶
		(400)	
	1,000	allies (ξέμμαχοι) ⁸ Heruls (400) ⁹ Huns (600)	Pharas Sinnion Balas
	(over 2,000)	<u>bucellarii</u> ¹⁰ (300) (800)	John the Armenian ¹⁷ Uliaris ¹⁸ Boriades ¹⁹ Diogenes ²⁰ (others unnamed) ²¹
Infantry John of Dyrrachium	10,000	<u>comitatenses</u> ¹¹	Theodore Cteanus Terence Zaidus Marcian Sarapis

Fleet

Calonymus of Alexandria

92 warships (δρομωναί^ε) with 2,000 rowers/fighting men²²
 500 transports (55-930 tons) with 30,000 crew²³

II. Appendix 2.

PRAETORIAN PREFECTS, MAGISTRI MILITUM AND EXARCHS OF AFRICA.

<u>Prefects</u>		<u>Magistri militum</u>	
533-534	Archelaus	533-534	Belisarius
534-536	Solomon	534-536	Solomon
536-539	Symacchus	536-539	Germanus
539-544	Solomon	539-544	Solomon
544-545	Sergius	544-545	Sergius
545-548-?	Athanasius	545	Sergius + Areobindus
	*	545-546	Areobindus
		546	Artabanes
		546-551-?	John Troglitas
?-552-?	Paul		*
	*		
?-555/560-?	Boethius		
	*		
?-558-?	John		
	*	?-562-?	John Rogathinus
?-563-?	Areobindus (?)		
	*	563-564/565	Marcian
564/565-?	Thomas		*
	*		
?-568/569	Theodore (1)	?-569/570	Theoctistus
568/569-570-?	Theodore (2)		
	*	569/570-570/571	Amabilis
			*
?-578/582	Thomas	?-578/582-585/591	Gennadius
578/582-?	Theodore (2) or (3)		
	*		
?-585/598-?	John	<u>Exarchs</u>	
	*	585/591-598-?	Gennadius
?-594-?	Pantaleon		
	*		
600-?	Innocent		
	*	?-602-610-?	Heraclius
			*
		619/629-619/629	Nicetas

II. Appendix 2 (cont.).

Prefects

?-627-? Gregory
 *
 ?-634-641-? George Glycas
 *

Exarchs

*
 633/636-637 Peter
 *
 ?-645-647 Gregory

CHAPTER III.

MILITARY ORGANIZATION AND DEFENSIVE STRATEGY.

III.

1. The structure of military command in Africa.The magister militum and exarch of Africa.

In April 534, Justinian set out in two rescripts, addressed respectively to the commander-in-chief of the army in Africa and to the prefect of the army, the framework for the military and civil administrations to be established in the reconquered provinces of Africa (*1). These documents show that Justinian intended reestablishing the system that had operated in Africa before the Vandal invasion, whereby the civil and military commands were separated from one another. The prefect Archelaus therefore became praetorian prefect of Africa, with his headquarters at Carthage and with authority over all the civil governors of the provinces (*2). Belisarius meanwhile retained sole command of the army. No special post was as yet created for the military commander in Africa; and Belisarius, throughout his period in Africa, kept his title of magister militum per Orientem. His successor Solomon, however, was styled magister militum Africae, m.m. per Africam or more rarely m.m. Libyae (*3).

As was shown in Chapter II, the powers of the magister militum Africae were extensive. Belisarius, magister militum Africae in function if not in name, was charged by Justinian with the appointment of the military governors (duces) of the reconquered provinces, the extension of the conquest as far as the limits of Roman Africa, as they had existed before the Vandal and Moorish incursions, the re-occupation of the frontier towns and fortifications and their defence against future attack, both by placing garrisons in the threatened areas and by restoring existing fortifications or constructing new ones (*4). The prefect too had a part to play in the military affairs

III.1.

of Africa, since it was he who was responsible for the payment of military expenses from the tax revenues of the diocese; such expenses included the payment of the duces, their staffs and the troops under their command (*5), the provision of supplies and transport (*6) and the funding of military works (*7). In theory the rank of the praetorian prefect was higher than that of his military counterpart. In practice, however, the magistri militum appointed in Africa were often of patrician rank and on a number of occasions the same man was both magister militum and prefect at the same time (*8). This last practice eventually received formal definition, between May 585 and July 591, when the emperor Maurice elevated the magister militum Gennadius to the rank of exarch of Africa, with supreme authority under the emperor for both the civil and military spheres of government (*9).

The magister militum Africae was surrounded by his own household (δίκηλα) of bucellarii, comprising both officers (δορυφόροι) and men (δρασπισταί)(*10). During the campaign against the Vandals, Belisarius's bucellarii, numbering at least 1,100 and probably more than 2,000, were commanded by an optio, John the Armenian (*11); two other bucellarii, Aigan and Rufinus, the latter a bandifer in Belisarius's household, were put in command of comitatensian cavalry (*12). The practice of entrusting bucellarii with special commands over regular troops was repeated by Solomon in 539, when he gave Guntarith command of half his army (*13); bucellarii are also mentioned in the company of Germanus (*14) and of John Troglitas (*15).

Little is known of the official members of the magister militum's staff. In 533, Belisarius was assisted by a domesticus, or personal military advisor, the future magister militum Solomon (*16); the

III.1.

Persian, Recinarius, probably held the same position on the staff of John Troglitas (*17). In the expeditionary army of 533, a single officer, John of Dyrrachium, held overall command of the infantry; this post continued after 536 when, following his death, John was replaced by Dominicus (*18). Reference is also made, in 608, to a ἄκαστράτηγος, second in command to the στράτηγος (*19). Besides his military aides and seconds, the headquarters of the magister militum would also have contained a number of officia dealing, like those of the prefect, with judicial and financial matters; of these, however, nothing is known (*20). Reference is made, however, to a cancellarius, but only in 591 after the magister militum had been replaced by an exarch; this official would have controlled access to the exarch's court (*21). In legal matters, the magister militum would also have been advised by an assessor; this was the post occupied by Procopius on Belisarius's staff in 533 and held probably until 536, when he escaped from Africa with Solomon during the mutiny (*22).

Although both the praetorian prefect and the magister militum Africae had their headquarters at Carthage, neither building or group of buildings can be identified with any certainty. It seems likely, however, that the building occupied by the prefect, and later by the exarch, was the palace of the Vandal kings, to which Procopius makes a number of references. This contained a prison, from which Gelimer's captives were able to see the Byzantine fleet as it entered the bay of Tunis in 533 (*23), and, naturally enough, a triclinium (*24). After the reconquest, Justinian dedicated a chapel within the palace to the Mother of God, and it was here that Solomon took refuge in 536 (*25). One hypothesis would seek to identify part of this building with a group of massive concrete foundations, evidently those of a large public

III.1.

building of some kind and apparently of fourth-century or later date, which have been excavated since the 1930s on the south-western edge of the Byrsa, overlooking the part of the city which surrounds the harbours. The foundations appear to be those of a three-aisled basilican structure, measuring internally 11 x 18 m. (see Fig.45). Its south-western end terminated in a complex of rooms set beyond a semicircular apse, and comprised amongst others a chamber of trefoiled plan. Comparison of part of the masonry of this south-western group of rooms with that of other dated Byzantine structures in Carthage suggested to Lézine the possibility that the basilican structure was the audience chamber of the Vandal palace and that the room of trefoiled plan was the chapel dedicated by Justinian. There is no conclusive evidence, however, from which to determine either the identification of the building or its function (*26).

The duces

Below the magister militum Africae and his staff, military authority in Africa devolved upon the duces of the various military circumscriptions. In 534, Justinian sanctioned the appointment of five duces, with the title of uiri spectabiles (*27), one for each of the five limites which corresponded with the civil provinces of Tripolis, Byzacium, Numidia, Mauritania and Sardinia (*28). During the course of the sixth century, there may have been as many as eight civil provinces in existence in Byzantine Africa at the same time; the number of duces or magistri militum uacantes, however, would have exceeded even that whenever there was more than a single dux allocated to each province (*29).

The duties of the duces were enumerated in the rescript addressed

III.1.

to Belisarius in 534. They were to have command over all the troops, both limitanei and comitatenses, stationed within their circumscription, to advance the frontiers to the former limits of Roman Africa and to establish fortifications and garrisons to defend them (*50). They were to maintain themselves in a constant state of readiness to repel attacks and for this reason were not permitted to leave their posts (*51). They also represented the magister militum, and through him the emperor, in their dealings with the pacified Moorish tribes (*52). Besides their military duties, the duces had some authority in judicial matters in both civil and military cases; this was probably extended during the course of the sixth century, as was their competence in most other aspects of civil government, such as taxation (*53).

Although the duces depended for their appointment and their orders on the magister militum Africae, in matters relating to the payment of their troops and the financing of building-operations they dealt directly with the praetorian prefect, to whose office they also paid a tax of 12 solidi for the certificate confirming their appointment (*54). Like the magister militum Africae, they had their own personal men (homines) (*55). Of these, however, little is known. Procopius refers to the bucellarii of the dux Tripolis Sergius; and Ulitheus is mentioned as a δορυφόρος of the dux Numidiae Guntarith (*56). We are better informed, however, about the household of the dux of Libya Superior under Anastasius I, which may be taken to have been broadly analagous to those in Africa under Justinian. This official's house contained a domesticus and a cancellarius, a decanus (majordomo), a subscribendarius (private secretary), a spatharius (bodyguard) and a bucinator (trumpeter). He could also call on the services of 37

III.1.

soldiers seconded from the ranks, 25 to serve as messengers, 5 as porters and 7 as prison warders (*37). Justinian fixed the rates of pay of the five African duces, together with their homines, at 1.582 solidi, a sum made up of 190 annonae and 158 capita, each annona and capitum being commuted at 5 and 4 solidi respectively (*58). These somewhat generous rates were evidently intended to induce the duces to desist from the otherwise common practice of dipping their hands into the pay and perquisites intended for the ranks under their command (*59).

The African ducal officia consisted, at the time of Justinian, of an assessor and 40 officials (duciani), graded as NCOs and paid at rather higher rates than their counterparts in the officia of the praetorian prefect (*40). The officia comprised one official ranking as primicerius, one as numerarius, four as ducenarii, six as centenarii, eight as biarchi, nine as circitores and eleven as semisales. Their pay, distributed according to rank, totalled $622\frac{1}{2}$ solidi, representing $88\frac{1}{2}$ annonae and 44 capita commuted at the rates of 5 and 4 solidi to each annona and capitum respectively. In addition, the assessor received 56 solidi, representing 8 annonae and 4 capita (*41). These rates appear to be more generous than those paid to the officium of the dux of Libya Superior under Anastasius I, whose 40 members received a total of 40 annonae and 40 capita, excluding fees, or those of the officium of the dux of Libya Inferior under Justinian, which, though apparently the same, were commuted for $387\frac{1}{2}$ solidi. As Jones suggests, however, the rates for Africa may have been set somewhat higher with a view to doing away with perquisites (*42). One other official, unattested at the time of Justinian but mentioned on the staff of the dux Numidiae in 633, was the dux's sacellarius or financial manager (*43).

As yet no ducal headquarters building has been excavated in Africa itself, although, as will be shown, the location of some may be suggested.

III.1.

The layout of the type of building that one might expect to find, however, is illustrated by a late fifth- or early sixth-century palace at Apollonia-Sozusa, identified as that of the dux of Libya Superior and excavated between 1959 and 1960 (see Fig.45). As Goodchild argued in his report on the excavations, the inspiration for the building is more likely to have come from late Roman official or private palace architecture than from any military prototype. The building at Apollonia had two stories, measured roughly 35 x 40 m. overall, and was set around a central peristyled or cloistered court. Its walls were built of unmortared stone blocks, bonded by headers and an infill of mud and rubble. The main entrance, situated at the eastern end of the north wall, led into a vestibule from which opened, on the right-hand side, a hall with a semi-circular apse, identified as an audience chamber. Beyond the hall, through a door in the head of the apse, lay a group of rooms, which may have served as guard-rooms and armouries; and above them there probably stood a signal platform, the fallen vault of which filled the chamber beneath. The east range of the palace consisted of a series of rooms whose function is unknown though there appears to have been domestic accommodation on the floor above them. In the south range stood the remains of a small chapel or martyrium, containing a large marble sarcophagus, which had evidently served as the reliquary for an unknown saint. In the centre of the western range of rooms was a large apsed triclinium, which opened directly off the central courtyard and stood a full two stories in height. The formal layout of the triclinium, in particular its axial relationship to the courtyard, appears to mirror exactly Dyggve's three-dimensional restoration of the fifth-century mosaic representation of the Palace of Theodoric, which survives

III.1.

on the south wall of the basilica of Sant'Apollinare Nuova^a in Ravenna (*44).

The provinces of Byzantine Africa.

The establishment of ducal headquarters by Belisarius at Lepcis Magna, Capsa, Thelepte, Constantina and Caesarea was intended initially as no more than an interim arrangement (*45). As shown above, these bases and their surrounding regions had probably already been occupied by Byzantine forces during the winter of 533/534, and Justinian's rescript of April 534 therefore merely confirmed an existing strategy and structure of command set up by Belisarius (*46). As Byzantine control was extended in the following years over the area formerly subject to Rome, however, both the structure of local command and the choice of military headquarters may be expected to have changed. The evidence for the existence of military headquarters at sites other than those mentioned above and for changes that took place in the geographical extent of the different military circumscriptions will be discussed, province by province, in the remaining part of this section (*47).

Carthago Proconsularis or Zeugi Carthago, although one of the smallest was nevertheless the most important of all the provinces of Byzantine Africa, because its capital, Carthago Iustiniana, was also the headquarters of the civil and military administrations of the prefecture (later exarchate) as well as being the principal metropolitan see of the African church. In 534, the province is referred to as Zeugi, quae proconsularis antea uocatur, Carthago (*48). Desanges departs from the usual interpretation of this passage by taking it to refer to two provinces instead of one. It is by no means certain, however,

III.1.

that, as he maintains, 'Zeugi' and 'Carthago' are also counted as separate provinces in the Verona List; in any case this document is corrupt, as he himself admits. Secondly, the area which Desanges would like to identify as 'Zeugi' corresponds with the administrative district known otherwise as Numidia Proconsularis, and this was a part of Numidia itself in the sixth century (see below)(*49). There is therefore no reason to suppose that 'Zeugi' and 'Carthago' were not one and the same province. The same province is also referred to as Προκονσουλαρία by Procopius in 553/555 (*50), Proconsularis in a novel of 582 (*51) and Καρταγέννα προκονσουλαρέα by George of Cyprus c. 600 (*52). In extent it would seem to have covered the same area as the earlier province of Africa Proconsularis, with the notable omission of Numidia Proconsularis, which now formed part of Numidia, and a minor variation in the line of its south-eastern border, to allow the towns of Pupput and Hergla to be attached to Byzacium (*53).

In 534, Carthago Proconsularis was to be administered by a consular civil governor, but no mention is made of his military counterpart (*54). The obvious explanation for this would be that the troops stationed in Carthage and in the surrounding cities (eg. Vaga, Thugga) formed part of the field-army under the direct command of the magister militum Africae (*55), a force analagous to the one commanded by the comes Africae that is set out in the Notitia Dignitatum (*56).

Numidia, covered a larger area in the sixth century than the province established by Constantine in 314 (*57) and was the most extensive province of Byzantine Africa. Procopius states that in 533 Hippo Regius lay within Numidia and that Bulla Regia lay near to

III.1.

its borders (*58). In the de Aedificiis (554), Procopius's Numidia extends as far east as to include Calama, Fussala, Sicca Veneria, Laribus, Obba and Ammaedara (*59), whilst George of Cyprus (c. 600) includes Calama, Ammaedara, Hippo Regius, Laribus, Scillium, Theueste and even Vaga, though the latter was probably a mistake (*60). From these indications it would appear that Numidia Proconsularis, which had formerly been administered by a legate resident at Hippo Regius and dependent on the proconsul of Africa, was attached to Numidia for administrative purposes throughout the period of Byzantine control in the sixth century (*61).

As has already been noted, both Procopius and George of Cyprus place Ammaedara in Numidia rather than in Byzacium (*62). In so doing they are in accord with the evidence derived from a fifth-century inscription at Ammaedara, which marked the grave of a sacerdotalis prouinciaie Africae, Astius Dinamius. If, as appears likely, it was to the provincial council of Africa Proconsularis, rather than Byzacium, that this man belonged, it would follow first that Ammaedara was part of Africa Proconsularis (or more particularly of Numidia Proconsularis) in the fifth century and secondly that Numidia Proconsularis had not yet been ceded to Numidia at that date. The first conclusion necessitates a slight alteration of the course of the provincial boundary between Proconsularis and Byzacium as it is marked on Salama's map in order to place Ammaedara, and probably all the other towns on the main Carthage-Theueste road, in Proconsularis (*63). The most likely date for the transfer of Numidia Proconsularis to Numidia is, of course, 533/534, when the reconquered provinces of Africa received their first formal definition.

III.1.

The border that Numidia shared with Mauritania Sitifensis in the west seems to have been as unstable in the sixth century as it had been in the fifth (*64). Although Mauritania Sitifensis seems to have been re-established after Solomon's campaigns in the region in the years after 539, by 554, Sitifis itself, and probably the remaining parts of the province that were still under Byzantine control, had been merged with Numidia (*65). In the south, it is plain from Procopius's description that the Aurès massif also formed part of sixth-century Numidia (*66), and archaeological evidence suggests that the borders of the province stretched to the desert's edge (*67).

In 534, Numidia was to be governed by a civil praeses and a military dux. The first dux was probably Marcellus, who held the post until his assassination by Stotzas in 536 (*68). Guntarith, the next to be mentioned, was certainly dux, or magister militum uacans, by 545, when he carried out a coup d'état in Carthage (*69); Guntarith had commanded a division of Solomon's army on the Aurès campaign of 539, however, and his appointment may therefore have dated from that time (*70). Theoctistus, magister militum per Numidiam, who is referred to on two lead seals from Carthage, is probably to be identified with the magister militum Africae of the same name who was killed by the Moors in 569/570 (*71). During the reign of Tiberius II Constantine (578-582), a dux named Arpagius was recorded on an inscription at Macula Tiberia (*72); and, in 633/634, Numidia was commanded by the patrician Peter, who is described as στρατηγός Νομηδικῆς τῆς Ἀφρικῆς (*73). The last datable reference to a dux in Numidia is on an inscription at Thamugadi, which records the dedication of a chapel in 641/647 by John the Armenian, who is styled dux of Tigisi (*74). One further dux

III.1.

Numidia named Seranos is known, however, though the date at which he held the command is not (*75). The position of military commander in Numidia was evidently an important one, since two of its holders, Theoctistus and Peter, seem to have gone on to become respectively magister militum and exarch of Africa (*76).

In 534, the military headquarters of the dux Numidia were placed provisionally at Constantina, which had been the capital of a unified Numidia since the time of Constantine I (*77). It was evidently from Constantina that Marcellus marched in 536 to confront the mutineers at Gadiaufala. Although there is no archaeological evidence from the town itself to suggest that it was the seat of the dux, it seems probable that the headquarters building would have been sited at its highest point, in the area now occupied by the medieval gasba and the nineteenth-century barracks (*78). It is also possible that Hippo Regius was the centre of a military circumscription during the Byzantine period: it had formerly been the administrative centre of Numidia Proconsularis (*79), and it may perhaps be no coincidence that the seal of the dux Peter bears on its reverse a bust of Saint Augustine (*80). The discovery of two epitaphs of primicerii at Theueste might also point to the existence of a military headquarters there (*81). Theueste was used as a base by Solomon in 544, just as Laribus was by John Troglitas in 547-548. The reference to John, dux de Tigisi, in the 640s also raises the possibility of Tigisi being a ducal seat; if so, however, it would not necessarily follow that by that date Constantina had ceased to function as ducal headquarters (*82).

Byzacium, or Byzacena, appears in the sixth century to have been little different in terms of its administrative boundaries from the Valeria Byzacena of Diocletian (*83). As already mentioned, however, the line of its northern boundary as traced by Salama needs to be modified

III.1.

to exclude Ammaedara and to include Hergla and Pupput.

In 534, Byzacium was to be governed by a consular civil governor and a military dux (*84). The province was first garrisoned by Byzantine troops during the winter of 533/534 (*85). The first attested dux, however, is the Thracian Himerius, who in 545, fell into the hands of the rebels and Moors under Stotzas at Μενεφείσση, but later escaped to Carthage (*86). Sergius evidently replaced him with Marcentius, who is first mentioned in 546 (*87). At the end of the same year, the new magister militum Africae, John Troglitas, left two duces in command of the garrison of Byzacium, but their names are unknown (*88). John Troglitas may previously have served as dux Byzacii himself during the second governorship of Solomon (539-544), unless it was in Tripolitania rather than Byzacium that he held his command (*89). Two other undated duces Byzacii are known: one, the cubicularius imperialis, spat-harius et magister Byzacena, John (*90); the other, the magister militum Byzacena, Leontius (*91). Another two magistri militum, Pompeianus and Crescens, are recorded on grave slabs at Sufetula, though the fact that the latter is described as peregrinus appears to suggest that he was a stranger to the town (*92); he may perhaps have been an officer in the field-army.

Justinian's rescript of 534 made provision for the establishment of two ducal headquarters, though a single dux, in Byzacium, one at Capsa and the other at Thelepte (*93). Both sites possess sixth-century town walls enclosing a smaller redoubt or fort. At Thelepte, a peristyled building lying inside the north wall of the town could perhaps represent the palace of the dux, though its plan and date are as yet uncertain (*94). Himerius is referred to as dux urbis of Hadrumentum in 546 by Corippus, suggesting that the former provincial capital was

III.1.

at this time also its military headquarters (*95); indeed, later in the same year, the whole of the provincial garrison was blockaded inside the walls of Hadrumentum, while the dux, Marcentius, removed his headquarters to an off-shore island for safety; unless the island was one of the Îles Kuriate, the Îles Kerkenna would seem to be the likeliest candidates (*96). One other site, identifiable as a seat of the dux Byzacii in the seventh century and possibly earlier, is Sufetula. Besides the two epitaphs of magistri militum mentioned above, this site has yielded those of a primicerius, a tribune and the exarch Peter who, assuming the identification to be correct, died there in 637 (*97). In 646, the usurper and former exarch Gregory moved his military headquarters to Sufetula from Carthage, a year before the destruction of himself and his army by the Arabs just outside the town (*98).

Tripolis, or Tripolitania, extended at the time of Justinian from the Gulf of Syrtes to Tacapes (*99), though Byzantine control of this area probably went no further than the immediate environs of the coastal cities. Towards the end of the sixth century, Tripolitania was detached from the exarchate of Africa and added to Aegyptus (*100).

The first Byzantine general to hold command in Tripolitania in the sixth century was Tattimuth, whom Justinian sent in charge of an expedition in 533 to bring support to the revolt of the provincial Romans led by Pudentius against the Vandals (*101). In 534, the emperor sanctioned the appointment of a dux limitis Tripolitanae provinciae as well as a civil governor of consular rank (*102). It is possible that John Troglitas was dux Tripolitaniae between 539 and 544, though, as mentioned above, he may alternatively have been dux Byzacii

III.1.

(*105). In 543, Solomon's nephew Sergius was appointed dux, but within a year he had fled to Carthage after provoking a rebellion of the Leuathae (*104). Corippus mentions a ductor Tripolis, Pelagius, in 544, but he may simply have been Sergius under a different name (*105).

In 547, the dux was Rufinus (*106); and, in 609, Kîsîl (Cyril ?)(*107).

The headquarters of the dux Tripolitaniae was established at Lepcis Magna in 534, and it was here also that Sergius entertained and then slew the leaders of the Leuathae in 543 (*108). In the de Aedificiis, Procopius writes that Justinian 'rebuilt the palace, which had been here in early times and now lay in ruins, the work of the ancient Emperor Severus, who was born in this place and so left the palace as a memorial of his good fortune' (*109). This 'palace' was evidently the Severan Forum, which, incorporated into the town defences and strengthened by the addition of bastions, probably now housed the ducal palace. Unfortunately all trace of later buildings within the forum square was removed by Italian excavators in the first decades of this century and no plans of them were made. The identification of the forum with the military headquarters is strengthened, however, by the fact that the large forum basilica was converted into a church in the sixth century; there can be little doubt, given the size of the building, that this was the shrine dedicated by Justinian to the Mother of God (*110). As at Apollonia and Carthage, therefore, the palace was associated with a church or chapel. The fact that Lepcis receives no mention in the Arab sources recording the fall of Tripolitania to ^cAmr ibn al-^cAsi suggests that by the later seventh century it may have been abandoned as a military base in favour of Oea (*111).

III.1.

Mauritania Sitifensis, the province created by Diocletian (*112), was not occupied militarily by the Byzantine army until after Solomon's Aurès campaign of 539 (*113). It can therefore be concluded that it was not one of the Mauritaniae referred to in the rescript of 534 (*114). Procopius describes the area lying 'beyond Aurasium' as 'the land of ζάβη, which ... is called First Mauritania, whose metropolis is Sitifis' (*115). In the de Aedificiis (554), however, he locates Sitifis and the unlocated site of Φρίκη in Numidia (*116). From these two references it is possible to infer that what remained of Mauritania Sitifensis had been added to Numidia before 553/555, possibly as a result of the abandonment of much of the territory. This administrative arrangement would have lasted until the end of the century, when George of Cyprus (c. 600) again locates Sitifis in Numidia (*117). The extent of Mauritania Sitifensis in the sixth century is indicated by the distribution of its Byzantine fortifications (see Maps 3-4). These include Zabi Iustiniana, Thamallula, Sitifis and Choba. The mountains of the Grande and Petite Kabylies, however, seem always to have eluded Byzantine military control (*118), and it may even be that the coastal towns of the province, including Choba, were throughout the sixth century joined to Mauritania Caesariensis, for this appears to have been the situation in c. 600 (*119).

No duces are recorded for Mauritania Sitifensis during its brief period of independent existence. The administrative and military centre of the province was doubtless at Sitifis.

Mauritania Caesariensis seems to have been confined geographically to the coastal strip of the earlier province of that name. During Solomon's second governorship, the capital, Caesarea, could only be reached

III.1.

by sea, while the hinterland was controlled by the Moors of Mastinas (*120). There is evidence, however, for Byzantine control over the other coastal towns of Mauritania Caesariensis during the sixth century and probably into the seventh as well; these towns seem to have constituted the Mauritania Prima of George of Cyprus (*121).

In 534, Mauritania Caesariensis was to be governed by a civil praeses and a dux (*122). Caesarea had already been occupied by a λδχος of infantry under the command of John (*123). The only other possible candidate for identification as a military governor of the province is Maurice, the magister militum who was buried at Rusguniae (30 March, Indiction XIV) in the church that he had built there at least five and a half years previously (*124).

The ducal headquarters were established at Caesarea in 534 (*125), though a second base may also be suspected at Rusguniae in view of the magister militum Maurice's connections with the town. Strangely perhaps, George of Cyprus mentions neither town; but the one site that he does mention for Mauritania Prima, 'Πινοχοῦροῦρων, seems to have been accidentally transposed from the list for Egypt (*126).

Mauritania Gaditana (*127), or Γάδειρα (*128), was the name given in the sixth century to the parts of the continents of Europe and Africa situated around the straits of Gibraltar. Since Mauritania Sitifensis was not reoccupied until 539, it seems likely that Gaditana was one of the two (implied) Mauritaniae listed as being governed by praeses in 534 (*129). This civil province probably also took in the Balearic Islands, which, like Mauritania Tingitania, had formerly been part of the diocese of Hispaniae (*130) and which in 533/534 were entrusted to Apollinarius (*131). Although there is some doubt as to whether or

III.1.

not the Byzantine possessions in southern Spain were attached to Mauritania Gadihana between 550 and 624/634, after which time Byzantine control did not extend beyond a few coastal cities, it seems likely that, at least after the latter date, all of the Byzantine possessions in the former diocese of Hispaniae would have been grouped together in the province referred to by George of Cyprus as Mauritania Secunda (*132).

Although Mauritania Gadihana constituted a separate civil circumscription, its military command was initially dependent on the dux Mauritaniae Caesariensis. In 534, Justinian instructed Belisarius to entrust Septem to a tribune with command over the dromones which patrolled the straits and a garrison of whatever size that the magister militum thought necessary (*133). Septem had in fact been occupied since the previous winter by a ἑκαστοῦ of Belisarius named John, and he was probably its first tribune (*134). It is possible, as already suggested, that when the conquest of southern Spain got under way in the 550s the Byzantine commanders in Spain were at the same time military governors of Septem and of whatever other parts of the former province of Mauritania Tingitania were under Byzantine control. The three known commanders in Spain are Liberius (551-554), Comentiolus (589/590-(600)) and Caesarius (c. 615)(*135). In 687 the command based on Septem was referred to as Africanus Exercitus (*136); and the last attested commander at Septem, and the last Byzantine military commander in Africa, was Julian, who defended the town against Musa ibn Nusair in 706 and helped Tariq into Spain in 710/711 (*137).

III.

2. The composition of the Byzantine army in Africa.

The Byzantine army of the sixth century comprised two separate formations, the mobile field-army, or-armies, commanded by the emperor in person or by his magistri militum, and the more static provincial garrison armies, commanded by duces, whose principal duties were policing the provinces and defending the frontiers against attack (*1). It was the former with which the historians and military theorists of the period were primarily concerned (*2). About the latter relatively little is known except in Egypt, where the survival of a rich harvest of papyrus documents has enabled a detailed study of the military organization of the diocese to be made (*3). The relatively full picture of the military organization of Byzantine Egypt that the papyrus documents allow to be reconstructed is of great value for interpreting the often meagre sources of information which are available for the study of the military organization of other Byzantine dioceses. In the case of Africa, the Egyptian material is particularly useful, since Byzantine Africa and Egypt share a number of general points of similarity. Both, for example, contained rich agricultural lands, whose defence was of vital importance to the economic life of the Empire; and both lacked well-defined frontiers, so that linear defensive systems were for the most part impracticable.

Lest it be too readily assumed, however, that the picture of military organization that we possess for Byzantine Egypt can be simply transposed onto Africa, some known points of difference between the two should also be noted. In the first place, while in Egypt the structure of military command depended for all practical purposes on the five (later six)(*4) duces, who commanded the provincial armies,

III.2.

in Africa more or less static provincial forces of the same kind were complemented by a mobile field-army under the command of the magister militum Africae, from whom the duces also took their orders (*5). In this respect the military organization of Africa in the sixth century is more closely comparable with that of Africa in the early fifth century, when the provincial garrisons of the dux Tripolitaniae, the dux Mauritaniae and the comes Africae had been complemented by a field-army commanded by the latter (*6).

A second respect in which the military organization of Africa differed from that of Egypt in the sixth century was that whereas the latter represented the outcome of several centuries of adptation by the Roman army to local conditions, in Africa the military organization set up by Justinian in the 530s was imposed from outside upon an area that had not been part of the Roman Empire for almost 100 years. One might therefore have expected Justinian to have attempted to bring the military organization of Africa more closely into line with that of the eastern provinces. The point of resemblance that has already been noticed between Justinian's organization and that of the early fifth century in Africa, however, shows that if such a policy existed it was not rigorously pursued; but whether this was due simply to similar problems at different periods requiring similar answers or to a conscious attempt to model the sixth-century military organization on that of a century earlier is uncertain.

Because no provincial army already existed in the diocese of Africa at the time of the Byzantine reconquest, apart from the Vandal royal army, the permanent garrison that Justinian planned to establish there to protect its citizens from Moorish incursions had to be formed

III.2.

initially from amongst the various units of the expeditionary army that were deployed in towns and forts throughout the reconquered territory. During the winter of 533/534, detachments were stationed in Numidia, Byzacium, Tripolitania and the more far-flung outposts of the former Vandal dominion (*7). That it was intended that part of the expeditionary army should remain permanently in Africa is illustrated by the way in which many of the soldiers took Vandal wives and installed themselves in possession of their estates within two years of the defeat of Gelimer (*8). Some other elements of the army, however, were clearly not intended to remain long in Africa. Among them were the Huns, whom Belisarius promised in 533 to repatriate as soon as the Vandals had been finally defeated (*9). From 535 onwards, other troops were also withdrawn to assist Belisarius in his campaign in Italy (*10).

To fill the vacuum created by the inevitable withdrawal of troops, Justinian planned to raise new forces locally. The reinstatement of the Roman taxation system, based on a new land survey undertaken between 534 and 539, would doubtless have gone hand in hand with the reinstatement of conscription based on land holding (*11). More explicit, however, were Justinian's instructions to Belisarius in 534 to encourage the establishment of regiments of volunteer limitanei (see below), recruited from amongst the provincial Romans, in order to reduce the strain on the regular field-forces. One can see, therefore, from Justinian's actions during the early years after the Vandal defeat that his policy aimed at making Africa as far as possible militarily self-sufficient, both in terms of the man-power needed to fill the ranks and of the finances needed to pay and equip them. A simi-

III.2.

lar policy worked well in Egypt in the sixth century, where, except between 563 and 568, there were no serious disturbances that required the intervention of forces from outside the diocese (*12). In Africa, however, it was to prove more difficult to achieve stability, principally because the Vandal interregnum had permitted the formation of powerful Moorish chiefdoms, whose centres of activity lay dangerously close to the prime areas of Romano-Byzantine settlement. As shown above (*13), Moorish rebellions throughout the sixth century caused reinforcements and even complete armies to be sent from the east on a number of occasions. The cost of these wars and the devastations caused by Moorish incursions made the intended economic and military self-sufficiency difficult, and perhaps impossible, to achieve (*14). In the second half of the sixth century, Byzantine military policy therefore came to depend increasingly on either paying off the Moors or buying their services; but although such a policy had worked well enough before the Vandal conquest, it could not hope to endure indefinitely without the backing of a superior Byzantine army whenever the system of alliances broke down. In the final analysis, the survival of Byzantine Africa depended on the strength of its field-army; it was the defeat of this by the Arabs at Sufetula in 647 and the failure of the central government to reconstitute it as a fighting force that was the decisive factor leading to the destruction of the exarchate.

The army of the magister militum Africae.

Of all the classes of troops employed in the sixth-century field-army, most were represented at some time or other in Africa. One exception was the scholae, who by this date had become a purely decorative corps of palace guards. It is recorded, however, that on one

III.2.

occasion Justinian even threatened sending them to Africa, but this was simply a ruse intended to induce them to surrender their pay and thereby save the emperor an unnecessary expense (*15). A commander of the more dependable corps of palace guards, however, the comes excubitorum Theodore, assisted Solomon in Byzantium in 535; but the status of the troops under his command is uncertain (*16). In 536, a member of the scribonae or secretaries of the imperial guards, Joseph, is also recorded in Carthage on a mission from Belisarius in Italy, which as it turned out was to prove fatal to him (*17). Amongst the collection of lead seals unearthed in Carthage, there is a small group relating to cubicularii, or eunuchs of the imperial bedchamber, which shows that some of these officials also held military commands in Africa in the sixth or seventh centuries (*18).

After the imperial guards, the next most important group in the magister militum's army would have been his own bucellarii, to whom reference has already been made above (*19). The bulk of the army, however, would have been made up of ordinary regular soldiers, who are referred to in contemporary sources simply as στρατιῶται or milites. Although the name is rarely used in the sixth century, these regular troops were the equivalent of the comitatenses of earlier centuries, the same who before the Vandal invasion had made up the field-army of the comes Africae(*20). The comitatenses of the sixth century were organized in numeri (ἀριθμοί, κατάλογοι), varying in size from about 300 to 500 men, but usually nearer the lower end of that bracket (*21). Recruitment was by voluntary enlistment or conscription (*22). The Strategicon puts the period of service at forty years (*23); and, if earlier laws were still in force, recruits would have had to satisfy

III.2.

an age and height requirement (*24). In the sixth century, barbarians were also sometimes enlisted in the comitatenses, as, for example, were the five numeri of Vandali Iustiniani, which Justinian raised in Africa for service on the eastern frontier (*25).

Belisarius's expeditionary army of 533 contained 1,500 comitatensian cavalry and 10,000 infantry (*26), while that of John Troglitas in 546 contained perhaps as many as 8,000-16,000 cavalry but only 1,000 - 2,000 infantry (*27). The reversal of the ratio of comitatensian cavalry to infantry between 533 and 546 which these figures appear to show may be variously explained. It might be suggested, for example, that in 533 the Byzantine higher command was still largely ignorant of the fact that the Vandals and Moors fought almost exclusively on horseback and that this misunderstanding was rectified in the composition of later armies sent to Africa. However, there would also have been sound practical reasons for sending large numbers of infantry with the expedition of 533. First, before Belisarius reached Sicily it would have been assumed that Carthage would have to be besieged or taken by storm; in either operation cavalry would have been of little use. Secondly, infantry would have been needed after the defeat of Gelimer for posting as garrisons in the major towns of the diocese, as well as for their skills in non-combatant duties such as building fortifications. During the subsequent campaigns in Africa, infantry always had a part to play; in the Aurès campaign of 539, for example, Solomon dispensed with his cavalry altogether on account of the mountainous terrain over which the fighting had to take place (*28). The nature of the terrain could also explain why John Troglitas relied so heavily on cavalry in 546-548 (*29). It would seem likely, however, that in view of the

III.2.

mobility of the enemy with which the Byzantine army had to contend, cavalry would usually have predominated over infantry in the later sixth-century armies of the magister militum and of the duces in Africa.

Belisarius's army of 533 also contained 3,500 troops styled foederati, all of them cavalry (*30). Like the foederati of the fifth century, those of the sixth were mostly barbarians. But there the comparison ends, for in the sixth century foederati were regular troops, wearing the cingulum and forming an élite force within the Byzantine field-army. In the Strategicon they are placed second in order of importance to the commander-in-chief's own bucellarii and before the optimates, or élite comitatenses. They are also given the front rank in the line of battle (*31). The sixth-century foederati were paid volunteers, recruited individually and subject to the same discipline as other regular troops, save that Goths enlisted as foederati were allowed to remain Arians (*32). They were organized into regiments, referred to as τάγματα rather than numeri or ἀριθμοί; but although their units were usually commanded on campaign by Roman officers, they had no established tribunes and were administered instead by their optiones or paymasters. Again, it was only when on campaign or seconded for special duties in the provinces that they were subject to the command of a magister militum (*33). At other times, they would seem to have been stationed in Constantinople and to have been commanded by the comes foederatorum (*34).

Although as an élite field-force the foederati were not normally used in garrison duty in the provinces (*35), this did occur during the early stages of the military occupation of Africa when foederati formed part of the composite garrison force established by Belisarius in

III.2.

Numidia in 533/534 (*36). The garrison of the fort of ad Centenarium in 534, for example, consisted of seventy Huns, all of them mounted archers; they are almost certain to have been foederati, since their commander, Althias, is listed amongst the commanders of foederati in the schedule of the expeditionary army (*37).

The other class of troops used in the field-army of the magister militum Africae was made up of irregular allies (σμμαχοι), serving under their own leaders. Belisarius's expedition of 533 contained 1,000 such troops, 400 Heruls and 600 Huns, all of them cavalry and the latter particularly noted for their skill as mounted archers (*38). In terms of their organization and status, the sixth-century σμμαχοι were the direct equivalents of the foederati of the fourth century, who were recruited en masse and served for money or other concessions agreed to by treaty (foedus; σμμαχια). The Strategicon recommends the general to treat such troops (ἐθνικοι) with especial care, since their loyalty could not always be relied upon. They were therefore to be given separate cantonments from the rest of the army, to be excluded from the general's confidence in matters relating to tactics and to be placed in the second line or on the wings in battle (*39). Evidently, although such troops could often give an army a decisive tactical advantage, as for example did the Huns at ad Decimum (*40), for the more mundane tasks of frontier patrol or police duties in the provinces they would have been a wasted asset as well as a potential threat. Even within the field-army of the magister militum, allies were capable of doing more harm than good and it seems unlikely that Justinian would have envisaged keeping those of Belisarius's army in Africa for long (*41). Indeed, the Huns complained in 533 at having been brought to Africa under false pretences and, as already mentioned, Belisarius

III.2.

accordingly promised to return them to their homes as soon as the campaign against Gelimer was over (*42).

Not all of the same shortcomings would have applied to the allied Moors who, recruited locally, formed an often indispensable part of the army of the magister militum. By the late fourth century, the system was well established in Africa whereby Moorish tribes living in proximity to areas of Roman settlement were administered by officers referred to in Latin sources as praefecti (*43). In 533, Belisarius was quick to re-establish some form of protectorate, strengthened by bribes, over the tribal leaders who sent embassies to him, as the emperor's representative, asking to receive the insignia which confirmed them in their office (*44). The extent to which such formal political and diplomatic exchanges led to the re-establishment of one important element of the late Roman defensive system, whereby pacified tribes settled in the frontier regions undertook to keep the peace and to defend neighbouring Roman settlements against attack by other barbarians, will be investigated more fully in the following section. It will suffice here to mention the recorded instances of Moorish troops serving as allies in the army of the magister militum. In 535, Solomon enlisted the support of two Moorish chieftains on his first Aurès campaign (*45), and in 544 it was desertion by his Moorish allies at Cillium that cost him his own life (*46). In all three of his major campaigns in Byzacium and Tripolitania (546-548), John Troglitas also made use of Moorish allies (*47). The degree of trust shown to one Moorish leader, Cusina, in 548, is illustrated by his being given a bodyguard of Byzantine troops by the emperor and the title of magister militum uacans; at the battle of *Latara, which concluded the campaign of that year, Cusina commanded both Moorish and Byzantine troops (*48).

III.2.

The ducal armies.

The composition of the ducal armies of Byzantine Africa differed in a number of respects from that of the field-army of the magister militum Africae. As noted above, the élite field-troops, such as the imperial guards, the foederati and foreign allies, were not normally given such mundane duties, nor, in the case of the foederati and allies, ones entailing such a degree of trust and loyalty. The major elements of the ducal armies were the comitatenses, the limitanei and the Moorish allies.

The practice of stationing units of comitatenses in provincial towns on a permanent or semi-permanent basis was already well established by the sixth century (*49), and it is clear from Justinian's directives to Belisarius in 534 that he intended to follow the same policy in Africa, drawing units from the field-army for the purpose (*50). Belisarius was instructed in particular to refer back to the emperor the numbers of infantry and cavalry stationed in the frontier regions, so that Justinian could either confirm the arrangements already made or increase the numbers of troops if he thought it necessary (*51).

In order to relieve the strain that the establishment of such garrisons would have placed on the strength and efficiency of the comitatenses as a field-force, however, Justinian also promised to send Belisarius a single numerus of limitanei, to serve as model which, he hoped, would encourage suitable provincial Africans to enlist to form further regiments which could then be stationed in the forts of the limes (*52). The establishment of limitanei on the frontier lands of Africa was a new departure from late Roman practice in the area (*53).

III.2.

Limitanei are a class of soldiers first mentioned in the eastern empire in the fourth century. In terms of their conditions of recruitment, pay and service, there was little to distinguish them from the comitatenses. They were regarded, however, as second-class troops; they received the new recruits of inferior quality and were employed specifically in frontier duties (*54). From the first half of the fifth century date the earliest references to limitanei being granted land to cultivate. In 423, a law addressed to the praetorian prefect of the East ruled that the territoria of castella were to be held only by castellani milites; and in 443, the agri limitanei that had been allotted to the milites limitanei to hold free of charge were ruled to be inalienable (*55).

By the sixth century, it was evidently normal procedure for the limitanei of the east to pursue civilian activities in addition to their military duties. Many of the limitanei stationed at Syene, Elephantine and Philai, for example, appear to have been Nile boatmen (*56). It was more usual, however, for limitanei to be granted lands from the imperial domains to cultivate for their own profit. Despite their private economic activities, the sixth-century limitanei were still paid troops and received cash allowances for rations and fodder like the comitatenses. In Libya Superior, for example, the limitanei, who are referred to as καστρησιανοί, were forbidden to make compulsory purchases of food from the barbarians; the duties of these troops included guarding the roads and preventing contact between the barbarians and the Romano-Egyptian population (*57). Sections of the constitution of 443 incorporated into the Codex Iustinianus also show that the eastern limitanei were to be drilled daily by their duces, their forts

III.2

were to be properly maintained and their lands were not to be alienated (*58).

It seems likely that the limitanean regiments which Justinian intended setting up in Africa in 534 would have been of the same type as those already established in the east. They were to be stationed in the forts of the limes and were to be given allotments of land to cultivate. It is also clear from the rescript that they were to be paid (*59).

The third element in the ducal armies in Africa was represented by the Moorish allies. Reference has been made already to the use made of Moors in the army of the magister militum Africae. Although on a number of occasions documentary sources refer to Moorish leaders dealing directly with the magister militum, it was probably more usual for the day-to-day administration of affairs of mutual interest between the Byzantine government and the Moors to be conducted, from the side of the former, by the dux of the province concerned (*60). The dux also led Moorish contingents on campaign. Many of the occasions on which this occurred would probably have been minor policing actions of insufficient interest to be recorded in our sources. In 544, however, the dux Tripolitaniae included two Moorish contingents in the army which he brought to assist Solomon (*61); and, in 609-611, the dux Cyril (?) summoned the Moors of Tripolitania to assist Nicetas against Bonosus (*62). In 545/546, the dux Numidiae Guntarith also drew support from the Moors of Antalas, Cusina and Iaudas, when he attempted to set himself up as tyrant in Carthage (*63).

III.

3. The garrison structure of Byzantine Africa (1).

It has been argued above that the military units under the direct command of the magister militum Africae would normally have been stationed in Carthage and in the surrounding province of Carthago Proconsularis, while those constituting the forces of the duces would have been posted in the forts and towns of the outlying provinces. The distinction that has been drawn between the 'mobile' field-army of the magister militum Africae and the more or less 'static' provincial forces of the duces, however, cannot be defined strictly in terms of the classes of personnel making up either force. When on campaign, for example, the magister militum's army would have included units drawn from the provincial garrisons, and on the conclusion of a campaign these would have returned to their usual posts. Conversely, provincial garrisons could at times have included units that in more normal circumstances would have been attached to the field-army of the magister militum Africae.

Despite the degree of fluidity in the composition of provincial garrisons that would have been occasioned by transfers of this type, often made in response to the particular needs of the moment, it would seem likely that the allocation of units as garrisons to the bases to which they returned between campaigns would have been made with a somewhat longer-term prospect in view. This is suggested not only by the fact that the reasons which made a position a suitable one for a garrison - such as, for example, strategic considerations, the existence of fortifications and barracks (once built), the availability of supplies and water, the presence of a civilian population in need of protection - would in many cases have changed little during the course of the sixth

III.3.

century, but also by analogy with Egypt, where instances are recorded of the same unit occupying the same post for between fifty and almost two hundred years (*1).

In Byzantine Egypt, not only did the garrison structure of the diocese undergo little change in the sixth century, but the garrisons themselves were also recruited largely from the local Egyptian population (*2). How far the Byzantine army of Africa was likewise a truly provincial institution, as opposed to an alien occupying force, is a question whose answer would be of some importance in assessing how far Justinian's restoration of the prefecture represented a developing partnership between the provinces and the central government and how far an artificial reconstruction of the past. Unfortunately, although the evidence for garrisons that we have enables some light to be shed on this problem, it is as yet too scanty to permit any firm judgement to be formed.

Direct evidence for types of garrison: comitatenses, limitanei, gentiles.

A handful of epigraphic texts from Africa attests the existence of a structure of military command below the provincial duces similar to that known from sixth-century Egypt, in which the major towns of the provinces received garrisons, usually of a single numerus of comitatenses, under the command of a tribune (*3).

The first text is the epitaph of Maxentius, a senator of the numerus Bis Electorum stationed in Hippo Regius (*4). A senator was an NCO grade, ranking below a ducenarius and above a primicerius (*5).

The same unit is also attested at Antaiopolis in Egypt, where στρατιῶται βισίλεκτ(οι), commanded by a tribune, appear to have joined the garrison

III.3.

sometime after c. 540 (*6). The regiment may therefore have been raised in Africa by Justinian, where a numerus of Electi is recorded at Thamugadi before the Vandal conquest (*7), and subsequently have been transferred to the East.

Another regiment which may perhaps have been raised in Africa was the numerus of Numidi Iustiniani recorded at Hermopolis in Egypt in around 539 (*8). However, the numerus already stationed at Hermopolis from 340 until at least 507 was that of the Mauri, and in view of the similar meaning of the two names it seems possible that the Numidi Iustiniani represented simply a reformation of the older unit (*9). It may be noted in addition that by the sixth century the names of numeri usually had little to do with their ethnic composition at that date; indeed, as remarked above, the Egyptian numeri were mostly recruited locally (*10).

A second inscription from Hippo Regius records the grave of Buraido, a miles of the num(erus) Hipp(onis) Reg(ii) (*11). The practice of naming a unit after the town in which it was stationed is also encountered in Byzantine Egypt and Italy. Numeri so named, however, usually had a separate official name. The official name of the numerus of Hermopolis in 507, for example, was the Mauri, and that of Antaiopolis before c. 540 was probably the 'Macedonians' (*12). It is not necessary, therefore, to assume that the numerus Hipponis Regii was a formation different from the numerus of Bis Electi mentioned above; nor can one safely argue on the basis of the two texts either that the numerus of Bis Electi was replaced at Hippo by the numerus Hipponis Regii in around 540, when the former is recorded in Egypt, or that there were two numeri stationed at Hippo at any one time. A second point of int-

III.3.

erest concerns the name of the soldier. Although Buraido might be a Moorish name, and therefore be taken to represent evidence for local recruitment into the comitatenses, it is also possible that it was a mis-spelling of the Greek names Βορϰιδης or Βορϰιδης (*13).

Another tombstone, found in Algiers in 1856, but derived no doubt from the near-by site of Rusguniae, records the grave of Flavius Ziper, tribune of the numerus of Primi Felices Iustiniani; the inscription also states that Flavius had held the tribunate of Rusguniae for twelve years (*14). This text is of particular interest in that it provides evidence for the tribune of a numerus being at the same time identified as tribune of the town in which it was stationed (*15). The same practice is also found in Egypt, where the tribune is sometimes found to have played a part in the civil administration of a town analagous to that of the dux in the civil administration of the province (*16). That Flavius Ziper was tribune of Rusguniae for twelve years also illustrates the degree of permanence involved in the establishment of such garrisons.

Although no other numerus is mentioned in Byzantine Africa by name, some other references to tribunes may attest the presence of numeri stationed in towns. At Cululis Theodoriana under Justinian and at Mascula Tiberia under Tiberius II Constantine, the tribunes Nonnus and Vigor are recorded respectively in connection with the construction of town walls (*17). At Sufetula, the epitaph of another tribune, Traianus, is but one in a group of military tombstones found in the two basilicas of Servus and of Saints Sylvanus and Fortunatus. The group includes officers whose ranks range from primicerius to magister militum and probably even exarch (*18). In view of these associated

III.3.

graves, however, the case for Traianus having been the commander of a local garrison is difficult to sustain; indeed, the word peregrinus with which he is qualified would tend rather to imply the opposite, namely that he was a stranger to the town (*19). At Rusicade, the στρατηλάτης Photinus whose seal was found there might also perhaps have been a tribune rather than the governor of the province (*20). Lastly, in 533/534, Belisarius sent a tribune named John to take possession of the fort at Septem (*21); however, the number of troops under John's command is uncertain and could perhaps have amounted to more than a single numerus (*22).

Direct evidence for the stationing of limitanei in Africa is even less substantial than that for comitatenses. We possess, in effect, only one inscription that appears to refer to limitanei, and the interpretation of even this is not beyond possible dispute. The text in question comes from Aïn el-Ksar, near Batna, and was found built into the base of a fortlet, 18 m. square, which was unfortunately demolished in 1861 to provide stone for road-building (*23). It records the construction of a castrum (or castellum) under Tiberius II Constantine (578-582): hic k(a)st(rum) consent[i]ent(es) sibi ciues istius loci [p]rouid(entia) [eius d]e suis pr(o)p(riis) laborib(us) fecerunt (*24).

Now the construction of the fortlet was evidently an official act, since it was carried out under the auspices of the emperor, the empress and the magister militum Gennadius, and through the agency of another person whose name is restored in CIL as Fl(auius) T(ri)[g]et(ius). The part played by the ciues of the locus is also fairly well established, since the text states that it was they who actually performed the task

III.3.

of building the castrum; the phrase, de suis propriis laboribus, would suggest that they did it with their own hands, and not, as some have suggested, through intermediaries (*25). The second part of the text sets out in three columns the names of some seventeen individuals, possibly more or less depending on how one chooses to punctuate the text, ending with the phrase, Focas magister fecit +. Some of the names are followed by letters, which evidently represented abbreviations for secondary names or titles: m, co, l, fr, sc. Apart from the magister, Phocas, however, the only person whose title is instantly intelligible is Dom(i)n(i)c(us), who is styled campiduct(or).

Who are these people? Phocas, whose name is set apart from the others, was evidently the man responsible for putting up the inscription. For the rest, however, three interpretations seem to be possible: they were either the people who paid for the construction of the castrum, or the ciues who carried out the work, or the garrison stationed in the fort. The practice of private persons paying for the construction of military works is not unknown in Byzantine Africa (*26). If such were to have been the case here, however, it would appear strange that whereas the part played by the unnamed ciues was clearly stated, that of the named presumed donor(s) was left to the reader's imagination. It would therefore seem more logical to assume that the ciues and the listed men were the same. If this is admitted, it provides an additional clue as to the status of the ciues, since they included the campiductor Dominicus, who was clearly a military officer.

A campiductor was literally a drill instructor. Such officers are usually found only in infantry units and ranked below the ordinarii, representing the first eight NCOs of the numerus. One is specifically

III.3.

mentioned amongst the limitanei stationed at Elephantine in the sixth century (*27). The inclusion of a military officer in a group of people referred to as the 'citizens of the place' and associated with the construction of a fort becomes intelligible only if it is accepted that the ciues were limitanei, since the part-military part-civilian status of such troops is well attested elsewhere. At Elephantine, for example, legal disputes involving the rights of succession to the property of deceased limitanei were heard sometimes before a military tribunal and sometimes before a civil magistrate (*28). The names of the people listed at Aïn el-Ksar also suggest that they were men recruited in Africa. One of them, Guntarith, was probably of Vandal descent (*29), while Donatus, Gudulus and Saturninus are common African names (*30). Taken together, therefore, the evidence is consistent with the idea that the men formed a detachment of limitanei, recruited from amongst the local provincial population sometime in the sixth century; and that they built the fortlet, no doubt under military supervision, and were expected to guard it (*31).

There remain to be determined the rôles played by the individual mentioned in line three of the text and by the magister named Phocas. In the reading of the text proposed in CIL, the individual by whose agency the castrum was built is given no title at all, a strange state of affairs if he were indeed an official, civil or military, since even the rank of campiductor is clearly indicated. However, assuming for the moment that he was an official, his title could be sought amongst the group of letters following his name (*32). Three possible readings may be suggested:

(i) per Fl(auium) T[.]e(m) t(ribunum). Although Justinian's rescript

III.3.

of 534 is specific on the point that the limitanei were to come under the command of the duces of the provinces, the intermediate structure of command between the duces and the soldiers is not stated. Since the limitanei were to be organized in numeri, however, it would seem logical to expect their commanders to have been tribunes (*33). Following this suggested restoration of the text, therefore, Fl. T(...) would have been the tribune commanding the numerus of which the garrison at Aïn el-Ksar formed a part. The numerus could perhaps have been based elsewhere, for example at Diana, where a fort probably of Justinianic date survives, and have had detachments outposted in the surrounding region.

(ii) per Fl(auium) t(ribunum) [g]e(n)t(is). Tribuni gentium are found at an earlier date among the commanders of limitanei in Pannonia I and Raetia (*34), while praefecti gentium are well attested in Africa before the Vandal conquest and most probably continued to exist in the sixth century as well (*35). There is nothing else in the text, however, to suggest that the 'officer' commanded barbarian forces. It would also have been more usual for the gentilitial name Flavius to have been accompanied by a second name (*36). This reading should therefore probably be discounted.

(iii) per Fl(auium) T(homas ?) [p](r)e(fec)t(um). If the fortlet had been paid for out of state funds, one would expect the name of the prefect to appear on the inscription next to that of the magister militum (*37). The prefect Thomas is mentioned in a text at Anastasiana (Henchir Sguidan) at this date (*38).

To summarize, if Fl. T(...) had been an imperial official, it is probable that he would have been either the praetorian prefect of Africa

III.3.

or the tribune of the numerus of limitanei. However, it still remains possible that he was not an official at all, a possibility to which we shall return shortly.

The title of magister with which Phocas is styled is somewhat vague, since in the sixth century this could have any number of connotations (*39). A military interpretation seems improbable here, since if Phocas were to have been magister militum uacans one would have expected his name to have been placed immediately after that of Gennadius or the 'official' in line three, and certainly before the campiductor (*40). Since no reference is made either to any municipality by name, the place being referred to simply as locus, the possibility that he held a municipal magistrature also seems unlikely (*41). A more plausible interpretation, however, would be to identify him as an official connected with the organization of an estate. In the early centuries of Roman colonization in Africa, when settlements on imperial estates often represented municipalities in the process of formation, a number of elected magistri of fundi, saltus, pagi or castella were recorded on inscriptions (*42). In the late Roman period, estates still had magistri even though the movement towards the foundation of new municipalities had been arrested. A magister fundi, for example, was responsible for the construction of a fountain (?) on an imperial estate at Ksar Sbahi, probably in the sixth century (*43); and the magistri named Lucianus and Quadratianus, who drew up five of the Albertini Tablets, may have occupied similar positions (*44).

Another inscription found at Aïn el-Ksar and referring to an atriensis and coloni suggests that before the Vandal conquest this area, like most of the zone immediately north of the Aurès, had formed part

III.3.

of an imperial estate (*45). During the Vandal interregnum, the imperial estates of Numidia and Abaritana were confiscated by Gaiseric (*46), and although in the early sixth century the Vandal hold on the region had become tenuous, if not lost altogether, the campaigns of Solomon from 539 onwards succeeded in re-establishing Byzantine imperial control within a few years (*47). One method of bringing former imperial lands back into cultivation under Roman tenants and of defending them against future Moorish attacks might have been to establish colonists on them, in a manner reminiscent of the system of colonization by means of castella adopted in the third century in Mauritania Sitifensis. Too little is as yet known, however, of the organization of these third-century castella for this analogy to be pressed very far; and it may in any case be misleading, since the third-century castella attested in inscriptions around Sitifis evidently had a specific judicial identity, which probably had nothing to do with whether or not they were fortified (*48).

It would seem safer, therefore, to assume that in the sixth century the imperial estates of the region immediately north of the Aurès were let to conductores or possessores in the normal manner of running imperial estates at this period (*49). If Fl. T(...) were neither the praetorian prefect nor the tribune of the limitanei, he might therefore have been the conductor or possessor on whose land the castrum was built. Whether or not this particular idea is accepted, however, there seems to be a good case for identifying Phocas as a magister fundi, who would doubtless have superintended the work in an administrative capacity and have set up the inscription recording the act. In such circumstances, the troops posted at Ain el-Ksar would still have been

III.3.

regular limitanei. They would presumably have lived in the settlement which surrounded the fort and have cultivated its lands. It is even possible that they were already settled there before the reign of Tiberius. Instead of being paid by the prefect, through the intermediary of the provincial governor, however, they would possibly have received their annona directly from the conductor or possessor, singular or plural, whose lands they were in effect guarding; he (or they) would in turn have offset what he paid to them against the tax that he would otherwise have paid directly to the state's officials. Numerous examples of the annona being paid in this way are recorded in Byzantine Egypt (*50).

In conclusion, although clear proof is lacking, it would nevertheless seem likely that the sixth-century inscription from Ain el-Ksar relates to limitanei settled on part of the imperial domain. The precise administrative mechanisms by which the fort was built and the troops provided with lands and pay cannot be determined with any degree of certainty, however, and the explanation outlined above should therefore be taken as hypothesis rather than fact.

While the evidence for the establishment of limitanei in Africa in the sixth century is slight, that for the settlement of gentiles in the frontier regions is virtually non-existent. Despite the lack of hard facts, however, that this did indeed occur remains quite a strong possibility.

A law of Honorius (409) states that some of the lands granted in antiquity to gentiles to hold in return for defending the frontier regions (limes atque fossatum) were at that time being held by others; it therefore instructs the vicar of Africa to ensure that all tenants

III.3.

of such lands fulfilled their military obligations and to replace those who defaulted with other gentiles, or failing that with veterans (*51). It appears to have been contingents of troops such as these that made up the forces commanded by the praepositi limitum listed in the Notitia Dignitatum (*52); and the archaeological remains of the system of frontier defence based on gentiles is represented by the large number of small fortified farms, or ksour (*53), scattered throughout the African frontier regions and backed up in places by larger forts which evidently served as regional command points (*54).

By the time of the Byzantine reconquest, however, much of the Roman frontier zone lay outside the area of Vandal, or later of Byzantine, control (*55). Although archaeological evidence suggests that many of the ksour of the limes Tripolitanus, for example, were still occupied at this time, no doubt by the descendants of its original Moorish garrison, the new inhabitants showed little sense of loyalty towards the successors of their fathers' imperial masters; it was indeed against these Moors that John Troglitas fought his bitterest campaigns in 546-548 (*56).

In areas of the former Roman frontier that were retaken by Justinian's generals, and even perhaps in some regions of former Roman settlement that had been abandoned by their Roman populations, it is not impossible that Moorish tribes were allowed to settle in the sixth century on condition that they agreed to defend the remaining areas of Roman settlement against attack. Such, for example, may have been the conditions on which Antalas and his Moors were allowed to remain in Byzacium after the defeat and expulsion of the other hostile Moors from the province by Solomon in 535 (*57). But although it is probable

III.3.

that the treaties under which Moorish tribes agreed to serve as allies of the Byzantine provincial armies would often have included territorial provisions (*58), there is no certain evidence to show that these were in any way similar to those under which gentiles had been settled in the frontier regions in the third and fourth centuries.

This lack of evidence may not, of course, be particularly significant. Not only is it extremely difficult, in view of the lack of adequate excavations, to date precisely the phases of occupation of fortifications of the type that may have been used by gentiles in the sixth century, but even if that were to become possible the status and political allegiance of the occupants would still remain uncertain (*59).

The only piece of evidence from the field which might perhaps relate to a Moorish garrison being stationed in a fortified frontier post in the sixth century comes from Burgus Speculatorius (Kherbet el-Bordj) in southern Numidia, south-west of the el-Kantara gorge (*60). A military post was established at Burgus Speculatorius by the Legio III Augusta under Caracalla. In a later period, however, the inscription which records this fact had added to its outer margin the words : † bis posuit Caletamera in te(m)pore suo (*61).

Interpretation of the text can be only tentative in the absence of adequate survey or excavation at the site. It is clear, however, that Caletamera was a Moor (*62). It also seems likely that the text belongs to the sixth or seventh century, though a date in the later fifth or early sixth before the Byzantine reconquest cannot be ruled out. Although no photograph or facsimile is published, Wilmans described the lettering as 'Byzantine' (*63); the Latin cross would also suggest a date from the late fifth century onwards, since in addition to

III.3-4.

stylistic considerations the Moorish chieftains who ruled the Hodna region only became Christian after 484 (*64). It would therefore appear that the fort was rebuilt or refurbished by a Christian Moor, Caletamera, probably in the Byzantine period.

The two important questions which remain to be answered concern the status of Caletamera and the identification of the phase of rebuilding or refurbishment to which the inscription belongs. As argued elsewhere, the remains of the quadriburgium, measuring about 40 m. square, which survive at Burgus Speculatorius cannot, for architectural reasons, belong to a reign as early as that of Caracalla. It would therefore seem likely that the inscription relates either to the restoration or to the building de nouo of this fort and that the fort of Caracalla lies near-by or stratified below it. The reuse of the earlier inscription would seem to suggest that if Caletamera were not an imperial client or official, he did at least see himself as a continuator of the tradition of Roman government in the region (*65). Whether he was a commander of gentiles, however, or a Byzantine officer commanding comitatenses or limitanei, or simply a local Moorish chieftain acting independently of imperial authority, is altogether uncertain. The range of possible explanations could perhaps be narrowed if the site were to be excavated and its structural sequence and the cultural facies of each phase of occupation established.

4. The garrison structure of Byzantine Africa (2).

The evidence assembled in the preceding section has shown that we have direct evidence for the establishment of garrisons of comitatensian troops in only four towns other than the provincial headquarters in

III.4.

sixth-century Africa, namely Hippo Regius, Rusguniae, Cululis and Mascula (*1), less conclusive evidence for the establishment of a detachment of limitanei at Ain el-Ksar, and no more than the possibility that gentiles were stationed at Burgus Speculatorius. The number of known fortified sites in sixth-century Africa, however, includes 47 attributable to the reign of Justinian, 3 to that of Justin II, 4 to that of Tiberius II Constantine, 3 to that of Maurice and 21 whose date is uncertain, save that they are certainly sixth-century (*2). All of these fortified sites would doubtless have contained garrisons. The question needs to be asked, therefore, even if it cannot yet be adequately answered, how far it is possible to correlate classes of fortified sites with the types and sizes of the garrisons for which they were built. Although the conclusions that may be drawn at present are very tentative, some lines of discussion may nevertheless be set out to serve as a basis for future work.

The relation of settlement status to garrison type.

From what has been said above, it will be understood that in sixth-century Africa direct evidence, such as inscriptions, relating specific types of troops to known garrison posts is minimal. In Byzantine Egypt, however, the more plentiful documentary evidence that is available suggests that there at least there was often a direct relationship between the civil status of a settlement and the class of troops stationed in it. Of the 55 localities listed by Maspero as providing evidence of troops having been stationed in them in the sixth century, 35 are πόλεις listed by Hierocles in the Synecdemus, 14 are κίστρα belonging to the limites or to the outer defences of Alexandria, and 6 fall into neither category. Of the six, however, four appear to

III.4.

represent detachments of town-based numeri out-stationed in near-by settlements and, in one case, a monastery; the remaining two may also have been out-stations of town-based units. This evidence suggested to Maspero that, leaving aside the limites and the forts around Alexandria (*3), only cities had the right to an independent garrison in Byzantine Egypt (*4).

Whether this verdict may be reversed to read that all πόλεις necessarily possessed garrisons, however, is far from certain. Maspero, arguing by analogy with the Libyan Pentapolis, where at the time of Anastasius I each of the five cities was garrisoned by an ἀριθμός of comitatenses (*5), concluded that this was indeed likely to have been the case in theory, even if in practice the size of the garrison might on occasion have been more or less than a single numerus. Thus, the military organization of Egypt would have mirrored the civil administration, with a tribune and a pagarch in each πόλις(*6). However, it should perhaps be noted that of the 85 πόλεις listed by Hierocles in Egypt, only 35 (or 41%) have produced evidence for military garrisons. On the other hand, the nature of the garrisons that these 35 cities contained seems to have been remarkable consistent; only one in fact, Philai, was garrisoned by limitanei, the rest by comitatenses (*7).

Comitatenses were not reserved exclusively for town garrisons, however, since under Anastasius I they were also being used to guard the fossata of Libya Superior (*8). Limitanei, on the other hand, were almost invariably stationed in settlements that did not rank as cities (*9). Their garrison posts were usually referred to simply as κάστρα or φρούρια, and in Libya Superior the limitanei were called

III.4.

καστρησιανοί (*10). In conclusion, therefore, a correlation can be drawn in Byzantine Egypt between settlement status and type of garrison. Comitatenses were normally stationed in πόλεις (though not every city necessarily had a garrison), from which they could also be out-stationed in surrounding forts; limitanei, on the other hand, were stationed in settlements which did not rank as πόλεις, but were referred to simply as castra (*11).

Now in Byzantine Africa the nature of the sites to be garrisoned by comitatenses and limitanei respectively are referred to by Justinian in the rescript addressed to Belisarius in 534. This document states that although the purpose of the limitanei was to guard the castra et ciuitates, they were to be stationed in castra et loci (*12); later on, Justinian states explicitly that the milites (ie. comitatenses) were to be stationed in ... locis uel ciuitatibus and the limitanei ... in locis uel limitibus, where they were to have allotments of land to cultivate (*13). Comitatenses, however, could also be stationed in castra and limites (*14). Thus, as in Egypt, the limitanei were to be placed in forts, while the comitatenses were to be placed in forts and in towns. The question of what is meant by limes will be examined later (*15).

It now remains to compare the lists of known ciuitates with those of known fortifications and garrisons, to see what correlations may be discerned. In Egypt, a convenient list of πόλεις existing in the early sixth century is provided by the Synecdemus of Hierocles (*16). In Africa we are less fortunate. The sixth-century episcopal lists are of little use, since some bishoprics represented no more than uillae or fundi (*17); and the Descriptio of George of Cyprus, besides being

III.4.

incomplete, relates only to the very end of the century (*18). The earliest usable list of cities in sixth-century Africa is therefore the one of places fortified by Justinian that is given by Procopius in de Aedificiis, completed between 553 and 555 (*19).

In de Aedificiis, Procopius gives the names of 30 πόλεις, 28 of which he records as having been fortified by Justinian, besides 7 forts (φρούρια) also built by Justinian (*20). Now although Procopius states that Justinian restored all the strongholds that had been destroyed by the Vandals as well as building a great many more (*21), it is clear that the list given in de Aedificiis is far from being a complete record of the fortifications built by Justinian in Africa. For example, three of the ducal headquarters mentioned in the rescript of 534, Caesarea, Capsa and Constantina, are omitted altogether. Two inscriptions from Capsa, however, attest the building of walls around the city by Solomon and its renaming as Capsa Iustiniana, at least ten years before the composition of de Aedificiis; its omission by Procopius therefore appears the more curious. Other fortifications dated by inscriptions to one or other of Solomon's periods as governor and excluded from de Aedificiis include Chusira, Gadiaufala, Madauros, Sufes, Thagura, Theueste and Zabi Iustiniana. The omission of the last may be due to its having been abandoned by 554; but no such explanation seems possible for the others.

Procopius himself acknowledged that de Aedificiis did not represent a complete record of the building works carried out by Justinian, and excused himself for having left out some works either through lack of space or because they were unknown to him (*22). If he were not simply being selective in his choice of sites, therefore, one might ask

III.4.

what his sources of information for Africa might have been. Most of the African fortifications were built after his departure from Carthage in 536. He would therefore have been reliant on official documents relating to fortifications that were available in Constantinople and on conversation with people who had returned from Africa. If his sources were mainly documentary, however, it would be interesting to discover whether the sites that he included shared any features in common which might explain their inclusion in the same official documentary source; they might perhaps, for example, have been built during the same years, financed by the same means or garrisoned by the same class of troops. Unfortunately, if there was a unifying feature of this kind and one that distinguished the sites included from those left out it is far from clear what it was. Nevertheless, some superficial conclusions may still be drawn from the list as it stands.

Of the thirty πόλεις listed in de Aedificiis (*25), eighteen are referred to in other sources as πόλις, urbs or ciuitas in the sixth century. Sixth-century defences are attested by independent means at eighteen (*24) of these sites and where the nature of the defences is known it is in every case but one a town wall. The exception is Thamugadi, which has instead a fort of 0.75 ha. As will be shown below, the unit stationed at Thamugadi was probably a numerus of cavalry with some additional troops. The list of fortified πόλεις given by Procopius in de Aedificiis is therefore consistent with the hypothesis that they were garrisoned by comitatenses of at least one numerus in strength (*25).

Of the seven sites that Procopius lists in de Aedificiis as having been defended by a φροδριον (*26), none is known by other means to have

III.4.

been defended by a town wall; however, only four of the sites can be located on the ground, and of these only two, Diana and Thugga, have provided physical evidence for the existence of a fort (*27). Two of Procopius's φροβρία, Scillium and Septem, are listed as cities by George of Cyprus and the latter is described as an oppidum by Isidore of Seville; it seems possible, therefore, that both were already ciuitates during the reign of Justinian. Thugga, which lies in Carthago Proconsularis, was probably garrisoned by comitatenses of the field-army; Septem also had a garrison of comitatenses commanded by a tribune (*28). Some of the other forts, such as Diana, Thabudeos and possibly Fossala, all of which probably lay in or near to areas of imperial domain, may have contained limitanei. It therefore seems probable that Procopius's φροβρία were simply forts in the physical sense, and that no further inferences are warranted regarding the status of their civilian settlements or the nature of their garrisons.

There appears to be nothing to distinguish the fifteen sites known from other sixth-century sources to have had city status in the reign of Justinian from those listed in de Aedificiis (*29). Only nine out of the twelve whose location is known have provided evidence of fortification, and in all but three cases the fortification consisted of a town wall. Of the fort at Septem no archaeological trace has been found; the garrison, however, consisted, as noted above, of comitatenses under a tribune. The other two forts, Madauros and Thagura, enclose 0.24 ha. (reduced to 0.17 ha.) and 0.53 ha. respectively and would therefore have housed units of less than a complete numerus. Since these two sites lie only 2.25 km. apart, however, it is not impossible that they shared a numerus between them (*30). This evidence

III.4.

does not therefore seriously impair the hypothesis that under Justinian most settlements referred to as πόλεις, urbes or ciuitates had either town walls or forts capable of accommodating a numerus of comitatenses, commanded no doubt by a tribune. Indeed, town walls are attested at twenty-three out of thirty-seven located city sites (*31).

After the reign of Justinian, the documentary sources for Byzantine Africa become even more meagre. The only list of towns as such is that of George of Cyprus, dating to the end of the century; but although this contains thirty-four entries for Africa (including Tripolitania and excluding Spain and Sardinia) it is far from being a complete record (*32). The status of some of the settlements listed is also doubtful. Three are called κίστρα: Sufetula, Ammaedara and Bagai. The last two of these, however, are listed as πόλεις by Procopius and both had town walls. Sufetula is also known to have been a flourishing urban community in the sixth and seventh centuries (*33). If the word κίστρον has any significance at all here, which may perhaps be doubted, it might therefore denote the principal military bases of the period rather than forts or subordinate settlements. Sufetula was certainly an important military base by the middle of the seventh century (*34).

The list of cities given by George of Cyprus may be augmented with places renamed in the later sixth century after members of the imperial house, and other ciuitates or municipia referred to in the episcopal lists. By this means it is possible to arrive at a total of seventeen located and seven unlocated sixth- or seventh-century cities, which are first recorded as such after the reign of Justinian (*35). Of these only five have provided evidence of fortification: three had town walls and two have forts of 0.24 ha. (Anastasiana) and 0.12 ha. (Tubernuc).

III.4.

Little can be made of these figures.

In conclusion, although there is insufficient evidence to prove that all of the towns mentioned in the sixth and seventh centuries were fortified or garrisoned, under Justinian the majority of the cities where fortifications are attested had town walls as opposed to forts, and the rest forts that could have housed either a numerus or part of a numerus of comitatenses. Direct proof of the existence of permanent garrisons of comitatenses, however, comes from only four places, three of them (Hippo Regius, Cululis, Mascula) cities and the other (Rusguniae) of uncertain status. Of the forts built by Justinian, some may have been for limitanei and some for comitatenses; three seem to have been built in cities. There is therefore nothing to conflict with the evidence from the rescript of 534, which suggests that comitatenses were stationed in towns (ciuitates) and forts (loci) and limitanei in forts alone (castra, loci, limites). On the other hand, there is nothing to show either than this rule was strictly adhered to throughout the sixth century.

The sizes of garrisons.

There is little direct evidence to indicate the sizes of the Byzantine garrisons in Africa. The fort at ad Centenarium was garrisoned in 535 by a detachment of 70 Hunnish foederati under a tribune; evidently this represented only a part of the τάγμα, the rest of which would have been stationed elsewhere (*36). In 533/534, Belisarius sent a λόχος of infantry to Caesarea under the command of an officer named John; the strength of the unit may have been as great as 2,000 and was certainly more than a single numerus (*37). Finally, there are inscriptions which suggest the presence of numeri of comitatenses,

III.4.

commanded by tribunes, at Rusguniae, Cululis, Mascula and Hippo Regius (*58).

One method of estimating the size of a garrison, when inscriptions and documentary references are lacking, is to analyse the size and layout of the defences and in particular the barracks that were built to house it. It needs to be said, however, that such an approach can at times give a misleading picture. When the fortifications contained a civilian settlement as well as the military garrison, for example, the area enclosed might have been quite unrelated to the size of the unit, even though, following Justinian's own directives, the enceinte itself is unlikely to have been so long that it could not have been adequately defended by the resident garrison, assisted no doubt by the able-bodied members of the civilian population (*59). Troops might also have been stationed in towns, even for long periods, without leaving behind any recognizably military structures, such as barrack blocks, for archaeologists to excavate and analyse. When Belisarius entered Carthage in 533, for example, he billeted his soldiers on the inhabitants of the city (*40). The use of the right of requisition (metatum), which military and civil officials could exercise on towns and other settlements, is illustrated by a number of papyrus documents from Egypt (*41). This makes it possible to understand how Sufetula, which appears from epigraphic references to have been a military base for at least part of the sixth century and through the first half of the seventh, could have produced as yet no trace of military buildings or official fortifications. Sometimes, however, the billeting of soldiers on private houses would have been replaced by the provision of a special building, set aside for the use of soldiers and officials who were passing

III.4.

through. At Ombos in Thebaid, for example, an inscription records the construction of such a hospice by the inhabitants of the place who were subject to the metatum, in order to acquit themselves in future from having to accomodate officials (*42). Massively built, though still unfortified, barrack buildings are to be found in Northern Syria at Kasr ibn Wardan (*43) and Androna (*44). In Africa, however, barracks of this sort have yet to be identified.

It might be thought that where the garrison was housed in a fort a correlation could be established between the size of the fort and the strength of the unit. This, however, would not always have been so. At Cululis, for example, the fort of c. 0.05 ha., which occupies only a small part of the town enceinte of 3.24 ha., would evidently have been too small to have housed the complete numerus that appears to have been the established garrison of the place. Either, therefore, part of the numerus was out-stationed in other forts or it was accomodated in barracks or private houses within the larger enceinte. A similar example is provided by the fort of the sixth-century numerus of limitanean dromedarii at Nessana in the Negev, which, enclosing only 0.30 ha., would have been too small to have held all the men of the unit, let alone their mounts. Kraemer suggests that this fort, which had probably been built earlier under Theodosius II, served merely as an armoury and an administrative headquarters for the numerus, whose members would have lived in their own private houses in the settlement surrounding it (*45). Such a practice may also have been followed in the limitanean settlements in Africa (*46).

Despite these general difficulties, the analysis of African fort plans and sizes in terms of the likely strengths of their garrisons

III.4.

would still seem worthwhile attempting, even if the conclusions that may be drawn are only of a tentative nature. A number of reasons may be suggested why this should be so. In the first place, since the fortifications under consideration were all of sixth-century date, they would doubtless have been designed and built for the units first stationed in them, in most cases under Justinian. One must assume, however, unless there are reasons for not doing so, that fortifications would have been large enough to have been able to contain the whole of the unit for which they were designed. Secondly, it seems likely that during Solomon's second governorship (539-544), when the building programme reached its peak, every permanent garrison would have been provided with a fortification of some kind, and that fortifications of a later date would have merely represented additions or modifications to an established system of garrisons worked out by Solomon. The size and distribution of the fortifications existing in this period should therefore in theory reflect the size and distribution of garrisons.

Now as already mentioned, the size of garrisons stationed in settlements defended by town walls cannot be estimated by archaeological means unless the barrack buildings survive, and since no barrack building outside a fort has yet been identified or excavated in Africa an immediate difficulty arises. Settlements surrounded by town walls, however, would probably without exception have had city status (*47). Their garrisons would therefore have probably been a numerus, or more, commanded by a tribune.

At settlements where the fortifications consisted simply of a fort, the possibility of estimating the garrison size by archaeological means is somewhat greater. In Roman forts of the first and second

III.4.

centuries A.D., for example, the standardized plans of the buildings and defences and the equally standardized divisions of the army into legions and auxiliary cohorts and alae, often allows one to estimate the size of the unit for which a fort was intended even when only the trace of its ramparts is known (*48). The main difficulties occur when one has to deal with a mixed unit of infantry and cavalry or with a vexillation of uncertain size. In such circumstances, the area of the fort alone is rarely enough to go on; it therefore becomes necessary to excavate in order to determine the number and individual plans of the various internal buildings and decide whether they were barracks for infantry (organized in centuriae) or cavalry (organized in turmae), stables or store-houses (*49).

By the sixth century, one can be even less certain of the composition of the units stationed in forts. The military textbooks of the period provide details, not always very consistent, of the size of units making up the field-army (*50); but in practice the size of the basic unit of the provincial armies, the numerus, is known to have varied from 100 to over 500 men, though it usually settled in the lower half of the range 300 to 500 (*51). Indeed, the author of the Strategicon regarded the practice of having numeri of different sizes in one's army as a definite advantage, since it would confuse the enemy's calculations as to the strength of one's forces (*52). Another problem for the archaeologist attempting to establish the type and size of the unit formerly stationed in an excavated fort is that comparative evidence of sixth-century barrack buildings elsewhere is extremely limited (*53). What follows should therefore be treated as a basis for discussion and a stimulus for future field work, rather than a definitive interpretation of the available evidence.

III.4.

Although a necessary preliminary to any attempt to correlate forts with the units stationed in them is to have available a large body of excavated examples, in Africa there exists only one Byzantine fort suitable for detailed examination. The forts at Madauros, Thugga and Thubursicu Numidiarum have indeed been excavated; but they were done so in a manner which effectively destroyed the evidence for their internal structures and occupation, without providing any record of them in compensation. More recent excavations at Limisa, Mactaris and Musti have yet to be published, though a partial plan of the internal layout of Limisa has appeared in print (*54). Only at Thamugadi, however, is a more or less complete plan of the internal structures available. Even here, however, there are difficulties. The fort was excavated from 1939 until the mid-1950s, for most of that period in a fashion that made small allowance for the recording and interpretation of the fort's internal stratigraphy. Much information has therefore been lost, making final publication a difficult enterprise (*55). Since the fort is fully described in Gazetteer AA, the following paragraphs will deal only with the interpretation of the barrack buildings.

In interpreting the internal structures of any Roman - and one may therefore assume Byzantine - fort, two guiding principles should always be observed. First, it may almost always be assumed that the layout of the barracks will conform to a subdivision of the army of the day and that the number of buildings and rooms within buildings will reflect the sub-divisions within the unit that made up the garrison. Secondly, one should take care to distinguish between barracks and stables, since mistakes of this kind will upset the computation of the numbers and types of troops. In the first two centuries A.D., for example, two

III.4.

cavalry turmae of 30-32 men would have occupied a barrack of roughly the same overall size as a century of 80 infantry; but the cavalry horses for two turmae would also have required a separate building of roughly the same size again (*56). One cannot therefore simply count up the number of compartments inside a fort, multiply by a convenient figure based on the number of men that one supposes each room could have held and expect to achieve a satisfactory result (*57).

The fort at Thamugadi measures 111.25 x 67.50 m. internally and is divided into two parts by an axial roadway, which enters the fort at the north gate. The western part contains a variety of types of building, including a small bath-house, a chapel, the commander's residence, the headquarters building, a cistern, kitchens, latrines and some other buildings which have the appearance of barracks. Since the latter have been partly destroyed by the excavators (*58), their plan is not very clear; it seems possible, however, that they would have housed on the one hand the bucellarii or elite troops of the fort's commander, and on the other the non-combatant workmen associated with the service area of the fort.

The barracks of the ordinary fighting men occupied the eastern part of the fort. Here we find eight rows containing eleven compartments each. One of them is free-standing; four are arranged in pairs, back to back; and three are built against the walls of the fort (*59). The compartments are of roughly the same size; such variations as there are appear to be random and not to reflect any difference in use, either between rows or within them. Their internal measurements are 3.8/5.0 x 2.5/3.4 m. (ie. 9-14 m.²) and each row, apart perhaps from the free-standing one, had a verandah down one side, communicating with each of the compartments by means of a door set centrally in one of its shorter sides. It also appears from the surviving structural evidence and

III.4.

from the existence in places of stone-built stairs that each barrack had an upper floor; those built against the walls of the fort may even have had a second storey as well.

There is no clear indication whether the barrack buildings were intended for infantry or cavalry. Although on balance the evidence seems to favour the latter interpretation, it may be instructive in the first instance to assume that it was an infantry fort. In this way it should at least be possible to gain an idea of the maximum size of the garrison that such a fort could have held.

Assuming first of all therefore that the barrack blocks were for infantry, one may interpret their contubernia as follows. As in forts of the first two centuries A.D., there is a verandah, in this case 1.8-2.0 m. wide, giving access to a store-room for arms and equipment; the size of this room, however, 9-14 m.², is rather small compared with the usual 16-17 m.² of a legionary fortress (*60). In legionary barracks, the store-room would have led through to the sleeping quarters of the eight men of the contubernium. At Thamugadi, however, the sleeping-quarters would have had to have been on the first floor, above the store-room. The size of the first-floor rooms may have been slightly larger than those below, since they could presumably have overhung the verandah to some extent. But a corridor would still have been necessary to give access; the difference cannot therefore have been very much, say 11-16 m.² as compared with 21 m.² for a first- or second-century legionary fortress (*61). To fit eight men into such a space could not have been done without considerable discomfort, even allowing for the fact that the space allowed for each man in a legionary fortress would have been somewhat more generous than in a fort of the same period. It seems

III.4.

therefore that the interpretation of the rows of contubernia at Thumugadi as accommodation for units of eighty or more men, equivalent that is to say to a century of first- or second-century type, should be rejected (*62). A figure of six men per contubernium would seem more reasonable (*63), and would allow from 1.8 to 2.7 m.² of floor space to each man.

The figure of six men to each contubernium would give 66 men to each row. Now the anonymous sixth-century military treatise, de Re Strategica, puts the complement of men commanded by a τετράρχης at 64, and states that four such units made up a τάγμα or numerus (*64). The western half of the fort could therefore have held two numeri, though as mentioned already, the strength of the numerus was apt to vary considerably. The total number of men accommodated in the eastern part of the fort, however, would have been a maximum of 528, to which would have to be added the commander's own élite troops stationed in the western part of the fort, making a total of around 600 (*65). The commander would in such circumstances have been a tribune, possibly holding the rank of magister militum uacans.

As suggested above, however, certain features of the barrack buildings at Thamugadi would argue for their interpretation as accommodation for cavalry, rather than infantry, with the horses occupying the lower chambers and the men the upper ones. These features consist of stone-cut troughs, about 50 cm. deep, set in rectangular niches in the walls of the lower chambers; there were two such troughs, and in one case three, in each chamber. The height of the troughs above ground level varies from nothing to as much as 1.05 m. and even 1.41 m. (*66); but such variation can probably be accounted for by the

III.4.

fact that 'ground level' in the fort at Thamugadi usually represents no more than the level at which the excavators decided to stop digging, and therefore bears little relationship to the ground level existing at the time when the barracks were built.

The obvious interpretation of the troughs is as mangers (*67) and of the lower chambers therefore as stables for cavalry horses. Some difficulties oppose such an interpretation, however, although they do not appear to be insuperable. In the first place, the chambers might seem rather small for horses. It is well attested, however, that the cavalry horses of the Roman imperial army were smaller than those of more modern European cavalry regiments, whose stock was improved with Arab blood. The osteological evidence from the late first- to second-century phases of the cohort fort at Newstead, in southern Scotland, suggests that the better bred horses, interpreted as the mounts of the cavalry and mounted men of the infantry, would have been mostly below fourteen hands and would certainly not have exceeded fifteen hands (*68). The relatively small size of Roman cavalry horses seems to be confirmed by the evidence of Roman stables that have been excavated in some forts. At the Claudian-period fort of Hod Hill (Dorset, England), for example, Richmond's figures would allow the space allotted to each horse to be put at 1.85 x 1.10 m. (*69). This is smaller than the area of 2.13 x 1.37/1.52 m. that would have been needed for horses of fourteen hands (*70), however, and it has recently been doubted whether the stable in question was intended for cavalry horses at all (*71). At Brough-on-
Noe and Ilkley (Yorkshire, England), a more generous spacing, 3.05/3.35 x 1.37/1.52 m., was allowed for each horse, the longer measurement representing the distance from the wall of the stable to a drain which ran

III.4.

behind the horses' tail ends (*72); while at Kunzing, on the Danube, Schönberger's reconstruction allows 2.60 x 1.30/1.45 m. to each horse (*73). Finally, the Strategicon puts the space to be allowed for each cavalry horse in field manoeuvres at three feet (0.94 m.) by eight feet (2.50 m.) (*74).

The ground-floor chambers at Thamugadi could therefore have accommodated up to three cavalry horses side by side with relative ease. If such were indeed to have been the arrangement, each row would have held thirty-three horses on the ground floor, and thirty-three men together with their arms and equipment on the floor above. The general rule observed in first- and second-century forts, that a given number of cavalrymen and their horses would have occupied roughly twice the space of the same number of infantry, could therefore equally well be applied to forts of the sixth century (*75).

Other architectural parallels would also support the interpretation of the barracks at Thamugadi having been intended for cavalry rather than infantry. The mangers in arched alcoves may be paralleled with the stables provided in the fortlets at Sufetula (*76) and at numerous sites in the East (*77). A close parallel somewhat nearer at hand is represented by the large stable complex associated with the early fifth-century pilgrimage church at Theueste, where the accommodation provided for those making use of the hostel seems to have been on the floor above the stables where they put their horses (*78). Christern's interpretation of this building as a xenodochi^{on} is not universally accepted, however, one argument advanced against it being the small space allowed for the horses. If the relatively small size of Roman horses is acknowledged, however, and bearing in mind also that pack

III.4.

horses would have been of smaller build than cavalry horses, this particular difficulty is removed (*79).

The anonymous treatise, de Re Strategica states that the officer commanding thirty-two men was known as a διλοχίτης, and that eight such units made up a τάγμα or numerus of 256 men (*80). If the idea that the fort at Thamugadi was built for cavalry is accepted, the size of its garrison may therefore be estimated as one numerus, comprising a nominal figure of 256 (or 264) ordinary troops, together with an unknown quantity of élite troops and bucellarii, bringing the total up to something over 300.

Using the evidence from Thamugadi, it might be thought possible to establish a rough 'rule of thumb' for estimating the garrison sizes of forts whose internal area is known but whose internal layout is not (*81). The walls at Thamugadi enclose 0.75 ha. Thus one could suggest, for example, that the fort at Tignica (0.38 ha.) could have held a garrison of 150 cavalry or 300 infantry, and the fort at Gastal (0.21 ha.) one of 90 cavalry or 180 infantry. Until further evidence has been collected, however, it would seem wiser to desist from such calculations or, if the temptation is too great, at least to regard them as only very crude approximations.

A number of factors would advise caution. In the first place, it would seem unlikely that there always was a close correlation between the area of a fort and the size of its garrison. Some forts, for example, were built with irregular plans in order to make the best tactical use of natural features, such as rocky escarpments or rivers. Even when the fort's plan was rectangular it is clear that not all of the buildings inside it would have been intended for the accommodation

III.4-5.

of troops and the area taken up by auxiliary structures, such as baths, chapels and store-houses, would not have been in direct proportion to the size of the garrison. A more important reason for not jumping to conclusions about the relation of fort size to garrison size in Byzantine African forts, however, is that the available data for fort sizes, collected from some forty sites, show no discernible patterning or grouping around preferred sizes (*82). The most that it seems possible to say about them is that the majority of forts whose areas are known enclosed under 0.30 ha. and that the distribution of fort sizes above that figure is consistent with a uniform distribution (*83). This does not necessarily mean that the assumption that fort size and garrison size would often have been related in some way is ill-founded. It means more probably that the data at present available are insufficient to allow any useful conclusions to be drawn from them. The onus is therefore upon field archaeologists to increase both the quantity and the quality of the available evidence.

5. The building of fortifications.

The administration of finances for the construction of fortifications in the later Roman Empire, as for all public building works and military operations, was the responsibility of the civil authorities of the provinces, even though since the reign of Valentinian I the responsibility for planning and construction had passed to the provincial duces (*1). The cost of financing town walls normally fell to the towns themselves; but no walls could be repaired or extended without the permission of the emperor and of the provincial praeses (*2). By virtue of his financial and legal rôle, therefore, the civil governor

III.5.

of a province, and in the case of Byzantine Africa the praetorian prefect, was closely involved in all stages of the construction of forts and town walls.

The normal administrative procedure for planning building fortifications in Byzantine Africa is illustrated by Justinian's rescript of 534 addressed to Belisarius. When a new fort or fortress was to be built, the initiative would have come in most cases from the military commanders. They would also no doubt have been largely responsible for deciding on the layout of the new work. Justinian advised Belisarius, for example, to plan town walls in such a way that they could be easily defended by the number of soldiers forming the garrison. The proposals for a new fortification made by the magister militum or by one of the duces would have been sent to the emperor for approval. If this were forthcoming, or perhaps while the application was still being considered, the dux concerned would have entered the estimated cost of the intended work in the budget of expenditure (breuis) that he submitted every four months to the praetorian prefect's office. It would then have been left to the prefect, on receiving the emperor's approval, to sanction both the proposed work and the expense and to put the construction in hand (*5).

The rôle played by the praetorian prefect in building fortifications is illustrated in practice by the frequency with which his name appears on inscriptions associated with them. Solomon's name appears twenty-four times (*4), Thomas's three (*5) and John's once (*6). At Cululis Theodoriana, a verse inscription recording the restoration of the town by Justinian describes the chain of responsibility for building the walls, beginning with the emperor and passing through Solomon (as

III.5.

prefect) to Nonnus, the tribune who executed the orders received from above (*7). At Macula in the reign of Tiberius II Constantine, the prefect Thomas is also lauded in verse as the builder of the town walls. The verse inscription is followed by a prose passage, recording in descending order the names of the military officers who were associated with the work: Gennadius, the magister militum, Arpagius, the dux Numidiae, and Vigor, the tribune who set up the stone (*8).

The re-establishment of the Roman taxation system and the compilation of a new land survey had probably been completed by the time that Solomon returned to Africa, in 539, to become for the second time magister militum and praetorian prefect (539-544). This, together with the generally peaceful conditions prevailing in the prefecture after 540, helps to explain why the largest group of dated inscriptions recording the building of fortifications is from this period (*9). The majority of official fortifications would no doubt have been paid for, as indicated above, from provincial revenues; in the case of town defences, this may have meant in practice that a remission of taxes was made to the town concerned, though special levies could also have been imposed (*10). Additional funds were derived from the spoils of war, for Procopius records that after the defeat of Iudath in 539 there fell into Byzantine hands a vast store of treasure, that was later used for providing many of the towns of Africa with defences (*11). Since tax revenues in the period immediately after the reconquest are unlikely to have been in a very healthy state, help of this kind would probably have been not only welcome but also extremely necessary.

It is fairly clear that, in the early years after the reconquest, the African provinces were unable to meet the cost of defence on their

III.5.

own; thus soldiers' pay was often in arrears and had to be made up with gold sent from Constantinople (*12). Evidence for direct imperial subsidization of the building of town walls in Africa comes from at least two sites. At Vaga Theodoriana, the new town wall, completed before the death of Theodora in 548, was paid for out of revenues derived from the imperial estates belonging to the domus diuina (*13). The count Paul, who is referred to in the building inscription, may be identified as a comes domorum. He is also mentioned together with Solomon as the builder of the town walls at Calama, and his name may perhaps be restored in a similar inscription from Bordj Hallal (*14). The possibility that the fortlet at Ain el-Ksar, in Numidia, was also built with the aid of revenues derived from an imperial estate has already been discussed above (*15). Another example of the subsidizing of fortifications from the res priuata, however, is to be found outside Africa at Ma'an, in Syria, where an inscription records the construction of a fort by means of the munificence of Justinian, and mentions the officials involved, the clarissimus comes John and the spectabilis a secretis Theodore (*16).

References to individuals other than imperial officials on inscriptions recording the building of fortifications have been taken by some writers to imply either that the structures were 'unofficial', and therefore formed no part of the official defensive system of the prefecture (*17), or else that the individuals so mentioned simply paid for the works as an act of munificence (*18). Acts of munificence are indeed known from Byzantine Africa (*19) and private fortified residences, though rarely datable and usually taking the form of small towers, are also attested (*20). When the structure associated with

III.5.

the names of seemingly private persons does not have the character of a private residence, however, two explanations are possible: either it was an official fortification, intended to receive a garrison of comitatenses or limitanei; or it was simply a look-out post or refuge for the agricultural workers of an estate or local community. The initiative in the latter case may have come from the state, from the possessor or from the church, acting either for the state or as land-owner. In general, however, the hand of the state may very often be suspected in the construction of fortifications, even when the textual evidence appears to suggest otherwise (*21).

An illustration of the problem of attributing authorship is provided by a tower (munitio), 14.5 m. square, built by Faustinus, bishop of Theueste, at his own expense (ex sumptu proprio) some 30 km. south of the city at Masticana (*22). Diehl cites this tower as an example in support of his case that the building of fortifications by private individuals was a characteristically late feature of Byzantine Africa (*23). If the identification of the bishop is correct, however, the fortlet would have been built in the first half of the sixth century, for Faustinus died in January 550 (*24). It is also difficult to see how, in view of the close association of church and state in the sixth century, an orthodox bishop could be thought of as a private person in the matter of building a fortification.

Some light is shed on the problems posed by this inscription by the Life of Saint Saba. After living as a recluse for five years in the Palestinian desert, Saba was joined by his disciples; and when their number had risen to seventy monks, he built a tower on a near-by height, in order to take possession of the land that was still unoccupied.

III.5.

Because of repeated incursions by the Saracens, however, Saba wrote to Justinian, asking him to instruct the gloriosissimus Summus (the pro-consul of Palestine) to build a fort in the desert below the saint's monasteries. Justinian responded by issuing a decretal, ordering Summus to pay Saba 1,000 solidi from the finances of Palestine for the construction of the fort and to furnish from the same source the finance necessary for the upkeep of a detachment of soldiers to garrison it and keep watch over the monasteries of the district. Later on in the same life, the saint built another tower; but this was a residential building, in which he was able to find solitude and survey his monastery (*25). Three different types of fortification were thus built by the saint: a watch-tower (which may also have served as a refuge tower) and a residential tower were built at the expense of the religious community for their own use; but the fort, although constructed on the instance of Saba, was built and garrisoned at public expense, with the authorisation of the emperor and of the proconsul (*26).

A number of building inscriptions from Syria and Palestine also attest the construction of defensive works by clerics. Some of these buildings seem to have been official forts garrisoned by regular soldiers, while others were official only in the sense that all church buildings were official in the sixth century. Examples of the latter type include the following: a church tower built by a priest at Zerzita, in 500 (*27); a tower built at Rouweyda by a deacon, in 539/540 (*28); a tower built at Tell Hazné by an apostolic visitor (περιοδεύτης) in 563 (*29); and a fourth tower built at Tell Ameri by a bishop, in 555 (*30). In Africa, only one directly comparable example may be cited, a tower built by a deacon named Argentius at Casae (*31).

III.5.

Examples of more strictly military structures built by clerics in the eastern provinces include the following: Burdj is-Sab^c, where the inscription recording the construction of a tower by a cleric named Symeon, in 572, also includes the name of the emperor, Justin II, suggesting that the tower served as an official garrison post (*52); Gabal Hass, where the layout of the defences built by the bishop Stephen gives the impression of an official fort (*53); and Ombos, where although it was the bishop who initiated the rebuilding of a hostelry for visiting soldiers and officials, the work was done by the men of the town garrison (*54).

There would therefore seem to be nothing unusual about the bishop Theueste taking in hand the construction of a tower or fortlet in the sixth century. The question remains, however, whether it was a residential building, a refuge or watch-tower, or an official garrison post. Without examining, and preferably excavating, the structural remains of the tower, the problem is difficult to resolve. The first possibility can probably be discounted, since the bishop is unlikely to have required a private residence of such a type so far from the city. The other two possibilities, however, seem equally plausible. For the bishop to have built a refuge tower for the inhabitants of a town or village, perhaps even the workers of his estate, would have been a perfectly normal thing for him to have done. On the other hand, it would be equally plausible for him to have been responsible for the construction of a tower, in which a party of troops detached from the military base at Theueste could have been stationed; their purpose could have been to patrol one of the principal routes leading south from the city. If the fortlet was an official garrison post it could have been paid for by the bishop as an act of munificence or in lieu of taxation, in the manner already

III.5.

suggested for Aïn el-Ksar (*35). Alternatively, like Saint Saba, the bishop may simply have been an intermediary, handling money made available for the construction work by the emperor through the praetorian prefect (*36).

In case this last explanation seems implausible, given that the inscription states that the bishop paid for the tower ex sumptu proprio, two examples may be cited from Syria to illustrate the point that building inscriptions of this type often disguise the source from which the finances for the works were ultimately derived. At Androna, the massive barracks that were built in 558/559 were provided, so the inscription associated with them would have the reader believe, through the munificence of Thomas, a native of the town, who is also recorded elsewhere at Androna as the donor of a bath building (*37). These barracks, however, were not only clearly intended exclusively for military use, but were also, so it seems, the work of Constantinopolitan masons (*38). Whatever Thomas's rôle in their construction may have been, it seems likely that the state, and probably the emperor himself, was also directly involved. In the second example, from Kerratin et-Tougga (Ταρουτλα ἑμπόρων), one inscription records the generosity of a certain John, who in 510/511 unparsimoniously disbursed the gold necessary for the construction of a tower, intended to serve as a refuge for the inhabitants of his home town; a second inscription, however, lets slip the information that the funds which John made available were not his own but the emperor's. Whether John was an imperial official, a local magistrate or perhaps even a priest serving as intermediary is unknown (*39). Such examples show, however, that inscriptions which purport to record acts of munificence by private individuals should not necessarily be taken at their face value.

III.5.

In view of this observation, the interpretation of a text from HENCHIR ZAÂBA, between Theueste and Thelepte, which records the restoration of a cas(trum) by two individuals, Samus and Victor, most probably during the Byzantine period, may not be as straightforward as it appears at first sight; and the fact that the inscription was found in the ruins of a Christian church does not make it any easier (*40). A text from Limisa, however, records the construction of a turris by three brothers, Maximianus, Stephen and Mellosus (*41). Whether the inscription relates, as argued elsewhere (*42), to the quadriburgium that still stands at Limisa (either to the whole structure or to one of its towers) or to an independent structure that has not been identified is irrelevant to the present argument, since the naming of the emperor Maurice, the exarch Gennadius and the prefect John shows that the work was in any case an official one. The rôle of the three brothers was evidently financial. The most plausible explanation is that they paid for the fort as part of their fiscal requirement (*43).

Whether Limisa had city status in the sixth century is not known. Towns provided with town walls, however, would probably have had to contribute if not to their construction then at least to their upkeep (*44). At Heliopolis (Baalbek), for example, an inscription of 635/636 records the construction of a tower forming part of the town wall by the Macedonian quarter of the town (*45). The only comparable evidence from the African prefecture is from Caralis in Sardinia, where Gregory the Great instructed the bishop to take responsibility for the guard and repair of the walls (*46). By the sixth century, the actual work of building was usually performed by paid labourers rather than by corvées (*47). At Carthage in 533, for example, Belisarius 'offered great sums

III.5.

of money to the artisans engaged in the building trade and to the general throng of workmen', and by this means repaired the city walls within the space of three months (*48). At Ain el-Ksar, an inscription states that the physical work in building the castrum was done by the citizens of the place, de suis propriis laboribus (*49). It has already been argued, however, that these citizens were the local limitanei, and if they carried out the building with their own hands this would doubtless have been part of their required military duties (*50).

Some form of communal enterprise in building town walls may be observed at Hadrumentum and Sullectum during the Vandal period; and at Sullectum the priest appears to have assumed a leading rôle in the deputation which handed over the key of the town gate to Belisarius's bucellarius Boriades in 533 (*51). How far 'self-help' of this kind may have continued to be practiced under Byzantine rule is uncertain, however, since without imperial authority it was in theory illegal to build town walls (*52). The vast majority of the rather crudely built late Roman or early medieval defensive enceintes and fortlets that survive in Africa, often including Roman spolia in their masonry, are undated (*53). Some may be sixth- or seventh-century; but it would be misguided to assume that the majority were or that they were all unofficial works, erected by local populations for their own protection independent of official control. The distinction between official and unofficial fortifications needs to be carefully defined, even if it proves difficult to apply in practice (*54). Official fortifications would have included all those built with state finances or by individuals fulfilling an obligation to the state; they would have comprised structures designed to hold a garrison, as well as a number of others inten-

III.5-6.

ded to serve simply as refuges for local communities. Unofficial fortifications would have included private residences, either towers or villas, and perhaps some refuges or watch-towers built by landlords for the protection of their own estate workers. Fortifications not falling into any of these categories would have been not only unofficial but also probably illegal; if any could be shown to have existed in sixth-century Byzantine Africa, they would betoken in effect a lapse of the state's control of one aspect of provincial government over which it expected to exert a monopoly.

6. Strategy and the siting of fortifications (1). General principles.

Diehl's analysis of the siting of fortifications in Byzantine Africa has long dominated historians' ideas concerning the sixth-century defensive system of the prefecture (*1). Diehl rightly drew a contrast between the Byzantine military strategy of the sixth century and the system of defences which the Romans had operated in Africa before the Vandal conquest, and which had been analysed, a few years before the appearance of Diehl's own study, by Cagnat in the first edition of L'Armée romaine d'Afrique (1893). Whereas Cagnat had portrayed Africa as defended in the Roman period by a heavily fortified frontier zone (limes), comprising myriads of small forts, backed up in places by larger forts and fortresses, all of which had had the effect of cutting off the pacified and otherwise undefended parts of the diocese from the marauding desert nomads, by the sixth century, argued Diehl, conditions had changed. A weaker and less mobile army, whose commanders were under orders to avoid combat as far as possible, proved unable to bar the frontier to invaders; furthermore, the weakness of the preceding Vandal régime had permitted

III.6.

those Moors who had previously lived at peace within the borders of Roman Africa to reassert their independence and begin raiding near-by Roman settlements. To deal with disturbances initiated from both outside and inside the frontier line, a different defensive system therefore had to be adopted (*2).

According to Diehl, this was done in the following manner. First of all, the Roman frontier was reinstated, though its line now lay in part somewhat north of that followed earlier (*3). It was laid out in a manner which Diehl regarded as typical of all sixth-century frontier systems, with more than one line of defence. Following the evidence of contemporary military treatises and examples taken from de Aedificiis, both of which however relate specifically to the eastern provinces and in particular to Persarmenia and the Danube, Diehl argued that the outer line of defence in Africa would have consisted of a string of fortified towns, interspersed with forts, all of them well fortified and provisioned, and garrisoned by small detachments of troops. Their purpose would have been to bar the frontier to aggressors and to serve as forward bases from which punitive expeditions could have been launched into enemy territory. Since the outer line could not always have been relied upon to prevent incursions breaking through, however, it would have been backed by a second one, set some miles behind it and made up of a chain of larger defended citadels, which would in most cases have been towns defended by town walls and containing sizeable garrisons. These citadels were to act as bases supporting the front line, to constitute a second barrier to invasion and to serve as refuges for the population of the surrounding countryside in the event of an attack. Such, in Diehl's view, was the system that Justinian intended to reconstruct in the early years after the reconquest. But because even this

III.6.

system was found to be penetrable, and also because of the existence of unpacified tribes living behind the frontier line, a third system of defences had to be implemented. This consisted of a network of fortifications, covering in effect the whole interior of the prefecture and intended to provide refuges for the inhabitants, and defensive posts for surveying the roads and for blocking the routes of invasion (*4). Some of the fortifications of the third system were official ones, while others were built and garrisoned by the local inhabitants (*5).

Diehl summarises his interpretation of the defensive system of Byzantine Africa in the following words: "Contre l'ennemi du dehors, deux lignes de places fortes au moins opposent leur barrière; pour contenir celui du dedans, des forteresses occupent tous les points stratégiques; chaque ville se clôt de remparts, chaque route se hérise de tours, et au lieu du système si simple de l'époque romaine, qui limitait à la zone frontière les travaux de fortification, la province tout entière se couvre de citadelles" (*6).

This analysis is unsound for a number of reasons, the principal one being that it is based on evidence derived not from Africa, but from other sixth-century provinces, notably those associated with the Danubian and Euphrates frontiers. Before proceeding to the main criticisms, however, two minor points may be dealt with. First, as stated above, the distinction between official and unofficial fortifications, and between their functions, needs to be carefully defined (*7). In his maps and in his detailed description of the articulation of the Byzantine defensive system, however, Diehl includes references to a number of sites that are unlikely to have been official Byzantine fortifications; indeed, many of them are altogether undated. Since unofficial (ie. private) fortifications would have played no part in official

III.6.

strategy, they should be omitted from any discussion of it. Secondly, more recent researches have also shown that the late Roman limes system was more 'organic' than either Cagnat or Diehl had supposed, relying on the settlement of communities of soldier-farmers, mostly barbarian gentiles but also including some Roman veterans, in the frontier areas. It remains true however that before the Byzantine reconquest virtually all the towns of Africa Proconsularis and most of those of Numidia were without fortifications (*8).

The major difficulties in accepting Diehl's interpretation of the Byzantine defensive system of Africa, however, become particularly apparent where he attempts to apply his model to the surviving archaeological evidence. The first problem concerns the function of fortifications. Now for reasons already explained in the preceding sections of this chapter, the principal purposes of official fortifications were to house garrisons of comitatenses or limitanei, together with their supplies of food, water and arms, and to protect the vital organs of the Byzantine administration, such as the offices of the provincial or town governor, their archives and treasuries and probably also in some cases the state granaries (*9). As a secondary function, some of the larger enclosures might have contained enough space to have housed some of the civilian population of the surrounding settlement or region, on either a permanent or temporary basis; but if provision was made for the protection of civilians in this way, it would not have been allowed to prejudice the defensibility of the enceinte as a whole (*10).

Where fortified sites remain unexcavated it is only on the basis of their size that one can attempt to gauge whether or not they could have contained buildings other than purely military or administrative ones (*11). Diehl's criteria, however, whatever they may have been

III.6.

for they are not stated, produce singular results. Bordj Hallal and Diana, for example, he cites as examples of refuges built for the protection of the population of the surrounding countryside; but Diana was a fort and Bordj Hallal a town enceinte; both would doubtless have contained garrisons. Sufes and Thelepte are said to be forts guarding towns; yet they, like Bordj Hallal, were clearly town enceintes; Thelepte was also a ducal headquarters. Finally, Ain el-Bordj and Limisa are described as clausurae defending defiles; but they are in fact simply forts, no different from Diana; there is in any case no evidence for the construction of clausurae in the sixth century in Africa (*12).

Diehl's interpretation of the strategic siting of fortifications in Byzantine Africa is even less convincing than his analysis of their individual functions. His views on the matter have been faithfully followed by all but a few subsequent writers on Byzantine fortifications in Africa, however, and therefore cannot be lightly dismissed. Diehl distinguished an outer line of defences, taking in the coastal cities of Tripolitania and running overland from Tacapes to Capsa, Theueste, Ammaedara, Mascula, Bagai, Thamugadi, Henchir Guessès, Lambaesis, Tubunae, Zarai, Thamallula and finally Sitifis. Behind it ran a second line, leaving the coast of Byzacium and running along the southern edge of the Tunisian Dorsal to take in Anastasiana (Henchir Sguidan), Limisa, Aggar, Chusira, Cululis, *Mamma and Sufes; it then passed through the massif to reach Laribus, Thugga Terebentina and Sicca Veneria (*13); and from Sicca Veneria it connected with another line of fortifications set along the northern edge of the Numidian High Plains: Thagura, Madauros, Tipasa, Guelâa Sidi Yahia, Gadiaufala, ad Centenarium, Sila and others (*14). Behind the second line, a third

III.6.

network of fortifications stretching from Carthage to Sitifis controlled the valleys of the Oued Mellegue, the Oued Seybouse and the Oued Rummel (*15).

Such a system, had it ever existed, would have made strategical nonsense. One need only consider what it was supposed to defend to see its futility; indeed, if the forts and fortresses mentioned above constituted the 'frontier', very little remained to be defended except Carthage and the open sea. In any case, the idea that such a line of fortified points, spaced rarely less than 20 km. apart and sometimes having no direct road communication between them, could have constituted a barrier to invaders would be difficult to conceive at any period, let alone one before the development of long-range cannon in the latter half of the nineteenth century (*16). In practice, few fortifications built earlier than then, other than continuous physical barriers such as walls (fossata or clausurae), could have effectively blocked the path of an invading force (*17); and even linear defensive works such as Hadrian's Wall in Britain or Anastasius I's Long Wall in Thrace were probably intended equally as barriers and as springing-off points, from which the defending garrisons could counter an impending attack before it ever reached the wall (*18). To speak therefore of the guiding principle followed in the siting of forts and fortresses in Byzantine Africa as 'le barrage des défilés, l'isolement des massifs montagneux au moyen d'une chaîne serrée d'ouvrages fortifiés' (*19), a phrase inspired in fact by the poetic language of Corippus (*20), would seem most implausible, unless it were meant to be understood that it was not the fortifications that formed the 'barrage' but the troops that they contained, arrayed to meet the attackers in the open. Yet Diehl maintains

III.6.

that such would have been contrary to normal Byzantine practice: 'Sur-tout on comptait que l'armée byzantine, peu nombreuse et peu solide, rendrait de meilleurs et plus utiles services, ainsi répartie en petites garnisons dans une multitude de forteresses, qu'aventurée tout entière sur un même point en une bataille rangée' (*21). Such a view is difficult to reconcile with what is known of the military history of the period.

One further consideration which would also make nonsense of Diehl's frontier system was that, as he himself acknowledges, the Moors who were raiding Romano-Byzantine towns and estates in the sixth century came not only from the desert regions of Tripolitania, southern Tunisia, the regions south of the Aurès and the Hodna, but also from the Aurès itself, the Nementcha, the Tunisian Dorsal, Cap Bon, the Kroumirie and the mountains of the Edough and the Kabylies, to name but the more obvious regions (*22). Courtois has shown that the weakness of the Vandal régime had permitted the formation of large chiefdoms in these regions in the fifth and sixth centuries, comprising federations of smaller tribes (*23). The problem of defence in the sixth century was therefore not only military, but also political; and it was not confined to the southern limits of Roman dominion, but concerned the whole prefecture. Because the political map of Byzantine Africa had the appearance of a jigsaw puzzle with differently coloured pieces representing the zones of Roman and Moorish settlement, the military effectives that were available to protect the inhabitants of the former areas from those of the latter could not be deployed to face any one particular quarter, like those along the Danube and, to a certain extent, in the Euphrates region; for the threat came from all quarters.

III.6.

How then did the system of garrisons and fortifications develop in Byzantine Africa and how was it articulated? It was Justinian's intention to reoccupy Roman Africa up to the boundaries (finēs) that had existed before the Vandal and Moorish incursions (*24) and to garrison the limites with units of comitatenses and limitanei, comprising both infantry and cavalry (*25). The word limes, however, means in this context not simply a fortified line, nor even a frontier zone distinct from the zone inhabited by civilian Africans, because, for the reasons stated, there was no distinction between civil and military zones in Byzantine Africa. The references to the dux limitis Tripolitaniae prouinciae (*26) and to the duces qui ordinandi sunt per Africanos limites (*27) show that in sixth-century Africa, limes had become synonymous for all practical purposes with ducatus or prouincia, the military circumscription of a dux (*28). There was therefore no geographical or administrative difference between fortifications of the limes and those in areas supposedly protected by the limes, because all fortifications except those in Carthago Proconsularis belonged to limites just as they belonged to prouinciae (*29).

The security of a province threatened by Moorish attack depended less on the strength of its fortifications than on the ability of its garrison to counter the Moors in the field. The response to local disturbances was at first made locally; the dux was to intervene using limitanean troops (*30). If he was unable to deal effectively with the problem, however, comitatenses, belonging either to the standing garrison of the province or sent by the magister militum Africae, would have to be used. If even these forces were unequal to the task, the magister militum himself might take charge of operations (*31).

III.6.

Only if the situation got out of hand at any point did provincial forces retreat behind their fortifications until reinforcements could arrive, and then with their help drive out the invaders. This is precisely what happened in 546, when the whole comitatensian garrison of Byzacium found itself cooped up in Hadrumentum, unable to prevent the ravaging of the countryside by the Moors (*52).

As shown in the preceding section, the initiative for planning and siting fortifications would have resided with the dux or the magister militum Africae, though control would also have been exercised by the prefect and emperor. The principles guiding the dux and the magister militum, however, would have produced somewhat different results from the lines of defence identified by Diehl and so readily accepted by other historians. Fortifications had to be placed in such positions that the garrisons from a number of them could be concentrated with the greatest speed and ease in the places most under threat. In general, these areas would have been the ones of richest Romano-Byzantine settlement, where the pasture was good and the plunder - principally agricultural produce, slaves and valuables - was best to be found. This explains in large part why, almost without exception, sixth-century fortifications in Africa were sited either in localities that were, or had earlier been, Roman towns, or in areas showing evidence for extensive agricultural exploitation (*53).

Placing fortifications in the midst of areas of population, however, also made sense for other reasons. It gave the inhabitants a refuge to flee to, if they did not have fortified buildings of their own. It allowed the garrisons to be used for certain administrative functions, such as the collection of taxes (*54). It made the supply of the annona to troops easier to arrange (*55). More importantly, it made the best strategic sense, since towns were sited, for a variety of

III.6.

reasons, in the best positions for controlling their territoria. They were also usually placed on major roads or cross-roads, and were thus ideally situated to be used as points for massing troops or dispatching them to other parts of the province (*36).

Before discussing how these factors are reflected in the archaeological evidence of fortifications in Africa, a word needs to be said about chronology. Diehl's maps illustrating the distribution of Byzantine fortifications in Africa not only include a large number of sites whose fortifications may not have been official Byzantine ones at all, but also fail to distinguish between fortifications of different periods. An attempt has been made to rectify these shortcomings in Maps 3-5. As will be seen in Maps 3 and 4, the majority of datable official fortifications are Justinianic, completed during either of Solomon's terms as governor. This being so, and in view of the prodigious efforts made by Justinian in building fortifications elsewhere, it has been decided to assume that the majority of the undated fortifications are also Justinianic and to regard them all, until evidence to the contrary is forthcoming, as having formed part of the system of defence established within two decades of the reconquest. Later fortifications, shown in Map 4, seem to have been planned simply to complement existing arrangements, without modifying greatly the overall dispositions. In Map 5, the locations of a number of undated or insecurely identified fortifications are shown (together with one of Heraclius, which falls outside the sixth century). Map 7 illustrates the relationship of all the fortifications shown in Maps 3 and 4, and some from Map 5, to the Roman road-system as reconstructed by Salama. These maps form the basis for the discussion of the strategic planning to be seen in the siting of fortifications that will be given, province by province, in the following section.

III.

7. Strategy and the siting of fortifications (2). The archaeological evidence.

In the province of Carthago Proconsularis, the number of recorded fortifications is small in comparison with that of the other provinces. Only two town walls, at Carthage itself (M3, 1)(*1) and Vaga (M3, 46), renamed Iustiniana and Theodoriana respectively, and a single fort at Thugga (M3, 44) are dated securely to the reign of Justinian. Undated forts are known, however, at Ain Metouia (M3, 48), Mustis (M3, 58) and Clupea (M3, 51); and an imperial arms-depot is attested at Thabraca (M3, 61)(*2). It would appear, therefore, that during the reign of Justinian, the troops commanded by the magister militum Africae would have been based almost exclusively in Carthage itself. In the later sixth century, however, some new fortifications were erected in the province. The fortress at Thubursicu Bure (M4, 70) and probably the fort at Tignica (M4, 71) were built under Justin II; a fort was built at Tubernuc (M4, 76) under Tiberius II, and another at Agbia (M4, 77) probably under Maurice. This minor flurry of building (*3) may perhaps be linked with the evidence for Moorish raids affecting the area in the late sixth century and making it necessary to bring Carthago Proconsularis more into line with other provinces through the establishment of a greater number of local garrisons (*4).

Carthago Proconsularis was bordered to the south by the province of Byzacium. The list of known official fortifications from Byzacium includes twelve built under Justinian, three that are undated and three dated to after the reign of Justinian. The distribution of fortified sites corresponds generally speaking to the areas of most developed Roman African settlement, taking in the fertile coastal strip and south-eastern edge of the Dorsal, where the Roman townships of the region could benefit

III.7.

from springs fed by rain-water from the massif (*5). The central arid steppe, across which the Byzantine army marched in 548, was apparently devoid of official fortifications, though George of Cyprus mentions the existence of Madarsuma (M6, 650)(*6).

Communications between the coastal towns was relatively easy, both by land and sea. Belisarius had followed the coast road from Caput Vada to Grassa in 533, stopping in towns and camps along the way. The route from Carthage to Hadrumentum continued to be of strategic importance throughout the sixth century. It was probably used by Solomon in 534 and 535, by John son of Sisiniolus in 544, by Artabanes in 546 and by John Troglitas in the same year. John Troglitas may have followed the same route again in 547, and after the defeat of his army by the Moors at Marta, he retreated back along the coast road as far as Iunci, supplied all the time by his fleet (*7). Under Justinian the coastal towns of Hadrumentum (M3, 19), which was also a ducal headquarters, Caput Vada (M3, 12) and Lariscus (M3, 24) were fortified, as was Iunci (M4, 72) under Justin II. The road between Carthage and Hadrumentum passed near to an undated fort at Vppenna (M3, 67), and under Tiberius II another fort was built on or near the same road at Tubernuc (M4, 76) inside Carthago Proconsularis.

Direct communications between the towns and settlements of the south-eastern flank of the Dorsal were made somewhat difficult by the natural topography of the region, which was cut by valleys and streambeds running from north-west to south-east. The localities that were provided with fortifications under Justinian included, from east to west, Cululis Theodoriana (M3, 16), *Mamma (M3, 27), Chusira (M3, 14), Sufes (M3, 37), Aïn Bou Driès (M3, 4) and Thelepte (M3, 42), the latter also

III.7.

being a ducal headquarters. The fort at Mactaris (M3, 57) is undated. Sufetula (M3, 60) was unfortified, though provided with a garrison later in the sixth or seventh century. Forts were also built at Anastasiana (M4, 74), under Tiberius II, and at Limisa (M4, 79), under Maurice.

In describing the military works of Justinian in Byzacium, Procopius states that the fortifications and garrisons established at Cululis, *Mamma, Thelepte and 'Αυμέτρα (Ain Bou Driès ?) lay on the edge of the Roman territory (*8). This statement makes little sense if one follows Diehl's view that the fortifications of the region were intended as a second line of defence, denying access to the Dorsal and Tell to nomads advancing from the south (*9). More plausible, however, is Courtois's argument that these sites were defended in order to protect the area of Roman settlement against possible attacks from the Moors living inside the Dorsal region itself (*10). Nevertheless, the Moors who raided the area around *Mamma in 535 and 548 included Leuathae and other tribes from Tripolitania, and the Moorish chiefdom which Courtois located around Thala should possibly be situated elsewhere (*11). These considerations merely serve to emphasize that it was the territory around the fortifications that their garrisons were principally intended to protect, rather than either the Tell to the north or the steppe and sahel to the south.

Because of the difficult communications existing between fortified sites in this region, the key strategic route for controlling the valleys in which they stood was the main Carthage-Theueste road, which seems to have lain outside Byzacium for the whole of its course (*12). It was from this road, at Theueste, for example, that Solomon advanced down the Oued el-Hathab, in 544, to confront the Moors in the disastrous

III.7.

battle of Cillium, in which he lost his life; and in 548 John Troglitas led his army south-east from Laribus to drive off the Moors who were encamped around *Mamma.

Leaving aside the continuation of the coastal road from Lariscus south into Tripolitania, the southern limit of Byzantine fortification in Byzacium would appear to have been a line running west from Lariscus (M3, 24) to Ksar Graouch (M3, 22)(*13), Capsa (M3, 11) and ad Turres (M3, 3). The region around the Chott el-Djerid and Chott el-Fedjadj was occupied in the sixth century by Moorish tribesmen, some of whom were probably descended from the gentiles who had been settled on the limes Tripolitanus in earlier centuries (*14). Despite the strong likelihood that Moors from this region participated in raids on Roman settlements in Byzacium in the sixth century, however, there is also some evidence for Byzantine influence in the region. First, George of Cyprus refers to a place called Καστέλλια, which some commentators have taken to be the equivalent of the Arabic al-Qastīliya, the name applied in the Middle Ages to the area lying around the Chott el-Djerid and including, from west to east, the towns of Nefta, Tozeur and el-Hamma (M6, 647). Louis Poinssot has even argued on the basis of this reference for a Byzantine military occupation of the area by the end of the sixth century: 'Dans cette région ce n'est pas Capsa qui était la porte-frontière, mais Nepte' (*15).

The second piece of evidence is a carved stone lintel, found at Tozeur (Tusuros). The face of the stone measures at least 1.00 m. by 0.40 m. It is decorated, from left to right, with the following motifs: a palm tree; a compass-drawn rosette; a pair of doves, one above the other; a cross-in-circle; a warrior dressed in Moorish costume, held

III.7.

in at the waist, and carrying a spear in his right hand; another rosette. Below these motifs runs the inscription: '[Arma] repone domi: nemo nunc uota reu[o] luat' (Take home your arms: may no one now make vows for war). The interpretation placed upon this text by Monceaux is that it celebrated an expedition undertaken in the Byzantine period against the nomads of the south, its meaning being clarified pictographically by the palm tree, the warrior and the doves of peace (*16). However, an alternative interpretation is possible. The carrying of arms into church, or even into church precincts, was explicitly forbidden by a law of Theodosius II and Valentinian III (*17). The lintel may therefore have come from a church and have been intended as a reminder to those entering it to leave their weapons at home. That the motives for this exhortation could also have been political seems possible; but since the context and the date of the text are uncertain, this can be no more than a theory (*18). The area around the Chott el-Djerid was already Christianized before the Byzantine reconquest and remained so afterwards. It was a martyr from the period of the Vandal interregnum, bishop Laetus of Nepta, who, it will be remembered, appeared to Justinian in a dream urging him to intervene in Africa (*19). A bishop is also recorded at Turris Tamalleni in 646 (*20). There is probably no need, therefore, to see in the text from Tozeur evidence for conversion of the inhabitants of the region in the sixth century. The catholic church, however, was used on other occasions in the sixth century as a tool of Byzantine diplomacy (*21). If there were orthodox bishops in the area in the sixth and seventh centuries, it is therefore possible that there were also praefecti gentium. Evidence for direct Byzantine military activity in the area, however, is unattested.

III.7.

The Byzantine official and military presence in Tripolitania (*22) was confined to the coastal cities of Lepcis Magna (M3, 25), which was also the headquarters of the dux, Oea (M3, 32), Sabratha (M3, 33) and Tacapes (M3, 38). The existence of a fort has been suggested at Gigthis (M5, 95), but the structure in question may be a medieval ribat. The Muslim fort at Ras el-Hammam (M5, 104) may have been built from the ruins of a Roman or Byzantine fort, serving as an out-post of the garrison at Lepcis.

That an attempt was made to restrict the areas settled by Moorish tribes is suggested by the complaints made to Sergius by the leaders of the Leuathae in 543 that their crops had been wrongfully plundered (*23). There is no indication, or even likelihood, however, that the limes Tripolitanus was ever reconstituted in its pre-Vandal form. Indeed, Moors from the region of the limes are listed amongst those raiding Byzantine estates in the sixth century; it was against them that John Troglitas led his unsuccessful campaign of 547 (*24). Attempts do seem to have been made, however, to pacify the tribes of the interior by diplomatic means, in which the church also played a part. Procopius records in 554, for example, that the Moors of Ghadamès were called pacati, because they had entered into a treaty with Justinian and accepted Christianity (*25). The same author states that the Gadabitani, who lived near Oea, had also been converted to Christianity from paganism (*26). The existence of Christian communities in the hinterland of Tripolitania in the sixth century is illustrated by the distribution of chi-rho monograms and other diagnostic Christian traits of that period (*27). In 569, however, the Garamantes accepted Christianity for a second time, suggesting that they may have taken part in the Moorish uprising of 563 (*28).

III.7.

Numidia, the largest province of Byzantine Africa, also contained the greatest number of fortified sites: twenty-three fortified under Justinian, twelve undated and three post-Justinianic. By 554, Numidia also seems to have taken in the parts of Mauritania Sitifensis that were still held by the Byzantines, adding a further two Justinianic and one undated fortification to the total (*29). The most significant parts of the maps showing the distribution of these monuments are perhaps the blank areas. The mountainous regions of the Kroumirie, the Edough and the Petite Kabylie represented zones of Moorish settlement cutting off those of Romano-Byzantine settlement from the sea. Much of central Numidia, around the chotts of the southern Constantinois, was unsuitable for any form of agricultural exploitation except for rough grazing of animals. The mountains of the Nementcha, the Aurès, Belezma and the Hodna, however, were well-populated regions of Moorish settlement (*30). Procopius states that, after expelling the Moors from the Aurès, Justinian ringed the massif with fortifications so as to prevent them having access to it again (*31). Although archaeological evidence would appear to support the idea that the Aurès were surrounded by fortifications, it would seem unlikely that they were ever cleared of their inhabitants (*32). Such a policy would have been not only difficult to implement, but would also have been unnecessary, since the area was not required for Roman settlement (*33).

As in Byzacium, the distribution of Byzantine fortifications in Numidia corresponds closely with that of earlier Roman urban settlement. Indeed, in view of the good strategic positions occupied by Roman towns in Numidia, many of which had a military origin in any case, it is difficult to determine whether Roman towns were chosen as sites for

III.7.

Byzantine fortifications more because of their relationship to the system of communications or because they still contained important settlements or stood in regions of settlement that were in need of protection. Both factors obviously played a part. While the character of sixth-century settlement in Numidia will only become clearer as more 'stratigraphic' excavations are undertaken in the region, however, the strategic factors may be illustrated by the military history of the period.

The most important single strategic route in Byzantine Africa was the one leading from Carthage to Theueste (M3, 43), and thence westward to Bagai (M3, 7), Thamugadi (M3, 41), Lambaesis (M3, 56) and eventually either to Tubunae (M3, 66) and Zabi (M3, 47) or to Diana (M3, 17) and Sitifis (M3, 36). This road had originally been laid out as far as Lambaesis by Hadrian to serve a specifically military function (*34). Its military importance was no less in the sixth century. From this road, for example, as has already been remarked, it was possible for the magister militum, advancing from Carthage and supported no doubt by local Numidian contingents, to control the heads of the valleys leading south-west from the Dorsal into Byzacium. The part of the road that lay west of Theueste was used by Solomon on his two Aurès campaigns of 535 and 539; and one may assume that, after 540, he used the two branches further west as strategic lines in his campaigns in the Hodna and the plains of Sétif. Under Justinian, the road to Theueste had fortresses on it at Laribus (M3, 23), Obba (M3, 31) and Ammaedara (M3, 5) and, inside Carthago Proconsularis, forts at Thugga (M3, 44) and Mustis (M3, 58), the latter, however, being undated. In the later sixth century, the section of this route which lay in Carthago Proconsularis

III.7.

had forts added to it at Tignica (M4, 71) and Agbia (M4, 77), and a fortress at Thubursicu Bure (M4, 70); but whether the principle function of these garrisons was to guard the road itself or to defend the imperial estates of the region is less certain.

A second important road forked northward from the Carthage-Theueste road at Thacia (Bordj-Messaoudi), the site, it may be noted, of a disastrous engagement with the Moors in 545, and led through Sicca Veneria (M3, 35) to the headquarters of the dux Numidiae at Constantina (M3, 15). In view of the large number of fortified sites existing in the mountainous region south of Calama (M3, 10), no single route stands out as being the principle ^{al} one between Sicca Veneria and Constantina in the sixth century. The southern route, which skirted the edge of the mountains, was probably the easiest: this would have passed through Thagura (M3, 40), Madauros (M3, 26), Gadiaufala (M3, 18), Tigisi (M3, 45) and perhaps Sila (M5, 110). It was along this route that Marcellus, the dux Numidiae, advanced from Constantina in 536 to confront the mutineers of Stotzas at Gadiaufala. The northern route led from Sicca Veneria to Thagaste (*35), Tipasa (M3, 65), Thubursicu Numidiarum (M3, 63), Guelâa Sidi Yahia (M3, 53), Ksar Otsman (M3, 55) and Thibilis (M5, 113). Both of these roads would have connected with the road leading east from Thagaste or Thagura (M3, 40) to Ciuitas Pophensis (M5, 91), Bordj Hallal (M3, 8) and Bulla Regia (M5, 85); this was the 'road to Numidia' which features in Procopius's accounts of the campaigns against the Vandals and against the mutineers of Stotzas (*36). West of Constantina (M3, 15), a road led through Mileu (M3, 30), Cuicul (M5, 93) and Mons or Mopth... (M5, 102) to Sitifis (M3, 36) and thence via Thama-llula (M3, 62) to Zabi (M3, 47).

III.7.

In considering the strategic routes of northern Numidia one should finally not forget the sea. Solomon sent Martin by sea in 536 from Missua to join Valerian in Numidia, probably because the overland route was blocked by the mutineers. The transportation of supplies and possibly of men to the bases in Numidia, however, would often have been quicker and easier by sea than by land. It is perhaps not surprising, therefore, that the only evidence available at present for an imperial armamentarium in Africa comes from Thabraca (M3, 61), which also housed a post of the cursus publicus (*37). Roads led from Thabraca to Vaga (M3, 46) in Carthago Proconsularis and to Bulla Regia (M5, 85) and Bordj Hallal (M3, 8) in Numidia. Hippo Regius (M3, 20) was also the hub of a network of roads, of which the one leading from Bulla Regia was that followed by Belisarius in pursuit of Gelimer in 533, after the battle of Tricamarum. The unlocated fort of Fossala (*38) may have been sited on or near to the same road, perhaps in the vicinity of Onellaba; while if Bulla Regia (M5, 85) itself was not fortified, Bordj Hallal (M3, 8) in the Medjerda valley certainly was. Other routes led south from Hippo Regius to Zattara (M3, 69) and Thubursicu Numidiarum (M3, 63), as well as to Calama (M3, 10). Rusicade (M5, 105), another coastal town, may also have been a military base in the sixth century, in view of its importance in the Roman and medieval periods as the sea port of Constantina (M3, 15). The coastal towns of Numidia also served as havens for shipping plying between Carthage and the other Byzantine possessions of the western Mediterranean (*39).

Another important strategic route in Numidia was the one built under Trajan and Hadrian between the Aurès and Nementcha ranges and the Great Chotts (*40). After carefully considering the evidence available in

III.7.

1896, Diehl concluded that it was insufficient to support the idea that this road was reoccupied militarily in the sixth century, and that this was in any case unlikely on a priori grounds (*41). Subsequent discoveries and new discussion of the evidence, however, tend on the contrary to support the view that Byzantine military authority did extend into this region; conclusive evidence, however, still proves elusive and the nature and duration of the reoccupation cannot yet be adequately assessed (*42). In view of the somewhat contentious nature of the evidence, it seems worthwhile to summarize it here, though detailed discussion of it, site by site, will be found in the Gazetteer.

In the south-western corner of Byzantine Africa lay Zabi Iustiniana (M3, 47), whose reoccupation is attested by an inscription. Moving east, the next recorded post is Tubunae (M3, 66), where a Byzantine fort, though not precisely dated, is well attested archaeologically. To the east again lies the site of Caracalla's Burgus Speculatorius (M3, 49), just north of the main east-west road on a route which runs through the el-Kantara gorge to Lambaesis (M3, 56) and Thamugadi (M3, 41); the position was occupied in the sixth century by a late Roman or Byzantine quadriburgium, apparently refurbished in the Byzantine period by a Christian Moorish leader. The next post was Thabudeos (M3, 29), where two rather doubtful inscriptions and the possibility that this was one of the sites referred to by Procopius as being fortified by Justinian constitute the only evidence for Byzantine military occupation. Badias (M3, 6), the next post, can with confidence be identified with **Βάδη**, a town fortified by Justinian and mentioned as such by Procopius. The identification of the next two sites, however, Midili (?) (M3, 29) and ad Turres (M3, 3), with the **Μέδελα** and **Παρατουρών** of Procopius is less

III.7.

certain. At ad Maiores (M5, 81) a late antique or early medieval enceinte survives, but its precise date remains uncertain. Finally, the road reaches Capsa (M3, 11), where Justinianic fortification is securely attested.

Although the cumulative impression left by this evidence would appear to be that Byzantine military occupation did take place south of the Aurès and Nementcha, at least under Justinian, the more reliably identified links in the chain of fortified posts need to be isolated, since it is upon them that the strength of the case has to depend. As stated, there is firm evidence for a Byzantine fort at Tubunae (M3, 66) and, as will shortly be shown, there is also evidence for the administration of imperial domain lands just south of ad Maiores (M5, 81) under Justinian. Now it is possible to argue that, in the Justinianic system of defence, Tubunae was merely a post on the route from Lambaesis (M3, 56) to Zabi (M3, 47) and that ad Maiores represented a western outpost of the system operating in southern Byzacium (*45). If the arguments put forward elsewhere (*44) for the identification of Badias with the site referred to by Procopius as Βάδιη are accepted, however, there would seem to be little reason for not accepting at the same time the likelihood that the other military posts between Capsa and Tubunae were occupied militarily under Justinian.

Diehl's a priori objection may now be dealt with. Diehl argued that if the Byzantines had occupied the line of posts south of the Aurès, then all communication between the Moors of the Aurès and those of the Sahara would have been cut off; but this, he claims, was not what happened in practice, for, within seven years of Solomon's second Aurasium expedition, Iaudas was able to return to the Aurès from his

III.7.

exile in the Mauritaniae and, in 546, the Moors of the Aurès were joined in revolt by Moors from the region of the Chotts (*45). As has been argued in Section 6, however, the lines of fortified posts that may be discerned in Byzantine Africa could not constitute effective defensive barriers, preventing the movement of peoples across them. Secondly, even if, as will be suggested later, one of the functions of the garrisons stationed south of the Aurès was to regulate the seasonal movement of nomads north from the Sahara and Saharan Atlas, the fact that they apparently failed to do so in 546 does not mean that this had not been their intended purpose, far less that the area was not or had not been garrisoned.

With Diehl's objection removed, it remains to be established what form the military occupation would have taken and what functions it would have had. One may approach both questions by considering first of all the system of defence adopted by the Romans over a century earlier in the same area. The Notitia Dignitatum shows that the zone to the north of the Great Chotts was divided into a number of sectors, each commanded by a praepositus limitis, who was in turn under the command of the comes Africae (*46). These limes sectors included the limes Thamallensis, apparently based on Turris Tamalleni on the eastern side of the Chott el-Djerid; the limes Montensis in castris Leptitanis, which is interpreted as a limes based on a site such as ad Maiores, but having an outpost further south at Nepta (Nefta); the limes Bazensis (= Badiensis), centred on Badias; the limes Gemellensis, based on Gemellae; the limes Tubuniensis, based on Tubunae; the limes Zabensis, based on Zabi; and the limes Thamallomensis, based on Thamallula (*47). In the eastern part of this system, Byzantine military occupation is likely to have

III.7.

extended no further south than Capsa. West of Capsa, however, the Byzantine limes, understood here in the sense of a fortified strategic route, would appear to have followed almost exactly that described by the Notitia Dignitatum, but with Nepta and the sector centred on Gemellae omitted.

It may be asked, if the geographical distribution of Byzantine garrisons south of the Aurès and Nementcha corresponds with the distribution of garrisons in the same region in the late fourth and early fifth centuries, could not their organization and function also have been the same? The troops who made up the forces commanded by the praepositi limitum in fourth-century Africa were for the most part Moorish gentiles, who held lands in the frontier regions in return for undertaking to keep the peace and defend the areas of Roman settlement against attack from other Moorish tribes. Comitatusian troops would have been held in reserve (*48). Now such a system corresponds in general terms with that which Justinian proposed to establish in Africa in 534, save that in Justinian's system no mention was made of gentiles but, instead, of limitanei raised from amongst the provincial Romans (*49). There is no direct evidence for the existence of limitanei south of the Aurès in the sixth century; but since the sum total of direct evidence for the existence of limitanei in Byzantine Africa amounts to only one inscription (*50), this need cause no surprise. At Négrine, however, 4 km. south of ad Maiores, there is evidence for the existence of an imperial estate. Here an ostrakon, found in the 1930s, records that at *Laudetum the partition of imperial domain was assessed in 542/543 at one oliariu(s) arca-riu(s), which Albertini takes to mean one oil producer paying into the arca olearia of either Rome or Constantinople (*51). Even without this evidence, however, it would be reasonable to suppose that most, perhaps

III.7.

all, of the lands south of the Aurès that were not in Moorish hands would have belonged to the emperor. Such areas would therefore have been obvious ones in which to establish castra, garrisoned by limitanei in the manner that has already been suggested at Ain el-Ksar, a site lying on the northern flank of the Aurès massif (*52).

The only piece of direct evidence which may perhaps be taken as relating to the establishment of gentiles in a defensive rôle south of the Aurès in the sixth century comes from Burgus Speculatorius, where the fort was either rebuilt or refurbished by a Christian Moorish leader, probably at that date (*53). Corippus's reference to the Moors from Badias who joined the revolt of 546, however, also points to Moors being settled and cultivating lands in that region (*54); and the participation of Moors, whose normal business it was to defend the frontiers, in an open rebellion against the emperor would not have been a unique occurrence, since this is precisely what had happened in 373-375 during the revolt of Firmus (*55). It may also be recalled that the revolt of 546 was caused by Solomon's murder of the brother of Antalas, who up to that point had been an ally of the Byzantines. The revolt of the Moors at Badias cannot therefore be taken as evidence that there was no Byzantine military presence at Badias either before or after 546.

There is lastly the evidence of Arab historians writing of the expedition of Sidi ^CUqba across the Maghrib in 683. At Bagai and Lambaesis, on his journey westward, ^CUqba was opposed by forces of Moors and Rūm, who retreated into their fortifications when he attacked them. During ^CUqba's return march, however, the Moors and Rūm fell on the Muslim force and destroyed it at Thabudeos (*56). Great care should obviously be taken in interpreting these accounts, since, although they were based on earlier traditions, they were written six and a half cen-

III.7.

turies after the events which they recorded; furthermore, the events took place in the later seventh century and not in the sixth, which is the period under discussion here. The accounts would make plausible reading if one were to take Rūm as applying to the Latin speaking occupants of the castra, the descendants, in effect, of the garrisons established in them in the sixth century; however, the existence of Rūm opposing ^cUqba's outward march at Tiaret shows that it would be unwise to put any very specific interpretation on them. The most that it seems justifiable to argue is that there were Roman or Romanized elements amongst the populations of these places in the later seventh century (*57).

The evidence assembled above seems at least consistent with the hypothesis that the defensive system in southern Numidia in the sixth century, and possible the seventh, was based on gentiles and limitanei settled in the frontier region, supported by units of comitatenses. Whether the latter would have been stationed south of the Aurès it is difficult to say. The fact that Procopius refers to Badias as a πόλις (*58) might suggest this was a comitatensian base; but it is also possible that the comitatensian units were held in reserve further north, for example at Thamugadi and Bagai.

There remains the question of the strategic rôle played by the garrisons stationed in southern Numidia and Mauritania Sitifensis in the sixth century. It would seem unlikely that the Djebel Aurès was completely cleared of its Moorish population in 539 in the manner suggested by Procopius (*59). Procopius's related statement, that Justinian fortified five towns and two forts about it in order to prevent the Moors having access to the massif, should not therefore be given overdue

III.7.

emphasis, especially since one of the towns mentioned was Mileu (M3, 30), which lay north-west of Constantina. Nevertheless, the distribution map of Justinianic fortifications does show that the chain of mountains comprising the Hodna, Belezma, Aurès and Nementcha ranges was flanked to north and south by fortifications. The fact that most of the fortifications south of the mountain chain are sited next to rivers, whose valleys form routes of penetration leading north through the massif, might suggest that one purpose of their garrisons may have been to control the northward movement of nomadic or transhumant peoples from the region of the Chotts and the Saharan Atlas to the spring and summer grazing lands on the northern slopes of the mountains; such movements could have constituted a threat to the Roman settlements of central Numidia and the High Plains of Sétif in the sixth century as they had done earlier (*60).

It has already been argued, however, that the fortifications in Byzacium lining the south-eastern flank of the Dorsal, most of which also lay in valleys which formed lines of communication, were so positioned with the intention less of preventing contact between the Moors of the Dorsal and the Moors raiding from Tripolitania, though that may have been one of their practical functions, than of protecting the inhabitants of the settlements and regions in which they stood. The reason for placing fortifications next to the rivers issuing south from the mountain chains of southern Numidia and Mauritania Sitifensis could therefore have been the same, since the distribution of major settlements was determined by the availability of water for irrigation and by the existence of easy communications with the rest of the province, both of which needs the river valleys could have satisfied. Baradéz has

III.7.

stressed that the military occupation of these areas by the Romans was accompanied by extensive agricultural colonization, made possible by impressive feats of hydraulic engineering (*61); Corippus's reference to the double harvests of Badias (*62) and the ostrakon from Négrine may also serve as pointers to the continuance of agricultural exploitation into the sixth century (*63). The problems of defence and the measures taken to solve them in the sixth century may therefore have been little different in these areas than they were in the rest of Byzantine Africa. The position of these settlements on the very periphery of the prefecture, however, and the existence of more or less autonomous Moorish chiefdoms, both to the north and south of the strip of territory that they occupied, would doubtless have caused their inhabitants to have become more self-reliant in matters of defence and in their relations with the Moors; this may perhaps explain why it was in these regions and Tripolitania rather than in the more thoroughly Romanized and urbanized areas further north that Latin speakers were able to preserve their language and their identity the longest after the Arab conquest (*64).

Finally, the strategic functions of the coastal cities that were fortified and garrisoned in Mauritania Caesariensis and Gaditana should be considered. The evidence for official Byzantine control of the coastal cities is admittedly slight (*65). Moving west from Rusicade (M5, 105) in Numidia, the first site to have produced evidence of official Byzantine activity was Choba (M3, 50), which was given a town wall. At Iomnium (Tigzirt-sur-Mer)(M5, 98), an enceinte which cut off the peninsula on which the town stood from the mainland may also have been sixth-century in date, though it has no architectural features that

III.7.

would allow it to be certainly identified as an official work. Byzantine activity at Dellys, which is now firmly identified as the Roman Rusuccuru (*66), is attested archaeologically by no more than some coins of Justinian and Heraclius (*67) and a bronze exagium (*68). Rusuccuru may, however, be a site listed by George of Cyprus (*69); but the section of the town's enceinte that has been noted, built in a singular fashion using small coursed masonry interspersed with large reused drafted blocks, is probably pre-Vandalic (*70). Rusguniae (M3, 59) had a Byzantine town wall and may have been the headquarters of a dux; it also had a Byzantine church. At Sidi Ferruch, on the coast just west of Algiers, an inscription records the construction of another church (?) by a woman named Sabina, at a date set between 449 and 538 (*71). At Tipasa, excavations in the "Villa des Fresques" have unearthed a hoard containing 1,228 copper issues, the terminus post quem of which is given by eighteen types of Justinian datable to before 538 (*72). The eastern cemetery of the town also continued in use in the Byzantine period, while the basilica of Saint Salsa, which stands in it, underwent modifications possibly in the sixth century and certainly in the seventh or after (*73). The next city, Caesarea (M3, 9), was garrisoned and probably fortified; under Justinian it was also the seat of the dux Mauritaniae.

Between Caesarea and Septem, where the earlier castrum received a garrison and a church from Justinian (*74), there is no archaeological evidence for Byzantine coastal activity. However, since shipping moving between Carthage and Septem would have depended on coastal stations, it would be surprising if evidence were not eventually to come to light. The defence of the coastal towns of Mauritania would

III.7.

have been of some importance to the Byzantine government not only in keeping open one of the main routes for supplying the Byzantine garrisons in Spain with reinforcements, but also for economic reasons. It was most probably on commerce that the towns depended for their livelihood; and the trade-route which they supported formed one of the links in a chain of sea-borne communications which put the eastern Mediterranean in contact with the Atlantic sea board of Europe and Africa (*75). It is likely to have been along this route, for example, that eastern Mediterranean amphorae, containing wine, reached the western parts of the British Isles in the fifth and sixth centuries (*76). Byzantine contacts with the Atlantic coasts of Morocco are illustrated by the discovery of a hoard (?) containing four to five coins of Honorius, Phocas and Heraclius at Sidi ben Slimane des Zaères, south of Rabat (*77). Archaeological research, in particular the study of pottery using petrological techniques (*78), has much to add to our knowledge of the trading contacts between Africa and southern Spain, that are attested both by similarities in the material culture of the two regions and by documentary references (*79).

It would seem likely that the Moors of the interior of Mauritania had something to gain by leaving the coastal towns unmolested. There is nothing, however, to suggest any Byzantine military activity in the interior of Mauritania Caesariensis or Gaditana (*80). An inscription from one of the massive Moorish burial monuments, or djedjar, near Tiaret, which is purported to refer to Σολ[^λδμ]ων στρ[α]τηγός would seem more likely to have been a piece of reused spolium than associated with the construction of the monument. The interpretation of the now illegible text will remain problematical until archaeology is able to place

III.7-8.

the monuments themselves in their proper cultural context (*81). Christian communities, however, are recorded at Altaua and Volubilis as late as 599 and 655 respectively (*82), and archaeological evidence for Byzantine contacts with the latter in the sixth or seventh century is represented by a group of some two hundred glass mosaic tesserae, including eleven of gold, found in the city (*83).

In conclusion, the strategy which may be discerned in the siting of Byzantine fortifications in Africa appears to have been designed more to control and defend the centres of Romano-Byzantine administrative and economic life than to form any kind of defensive screen separating the areas of Roman settlement from the barbarians. The distribution of Byzantine fortifications appears to correspond in effect quite closely to the extent of Romano-Byzantine settlement in the sixth century. How far Byzantine refortification of these regions made possible the restoration and preservation of the social, economic and cultural life of Roman Africa into the sixth century and after will be discussed briefly in the following section.

8. Refortification and renouatio in Byzantine Africa.

In Procopius's de Aedificiis, more references are made to fortifications than to any other class of building, including churches. In Africa, thirty-five works of fortification are mentioned, compared with only five churches, two public baths, two fora, one fortified monastery and one governor's palace (*1). Although the de Aedificiis is far from being a complete record of the public building-works executed during Justinian's reign (*2), these figures nevertheless underline the importance accorded to fortifications in Justinian's building programme.

III.8.

In the west, just as the emperor's patronage of church building reflected his desire to strengthen the authority of the catholic church in areas that had previously been subject to Arian rule, so the building of fortifications was a material expression of his policy of restoring the temporal power of the Roman empire over its former dominions.

Both classes of building, however, in particular fortifications, also represented an important material aspect of the renouatio of city life upon which the social and economic vitality of the Roman empire was based and which Justinian made great efforts to foster. The evidence for the condition of urban life in Byzantine Africa in the sixth century may therefore serve as a touchstone by which to gauge how far the restoration of Roman Africa, which it was Justinian's intention to bring about, was a dream and how far a reality, within the area of the former African diocese that was reconquered by his generals.

Evagrius writes in his Ecclesiastical History that 'Justinian restored 150 towns in Africa; some he rebuilt completely; others, that were for the most part in ruins, he restored with even more magnificence. On all he lavished every kind of adornment, the public and private buildings, the circuits of walls and the superb constructions that are the splendour of cities at the same time as they are pleasing to God. He added to the number of fountains, as much for the pleasure that they give as for their utility, creating entirely new ones for towns that did not possess them already and repairing the others so as to restore them to their original condition'(*5).

More suggestive still is Procopius's description of the creation of a new city at Caput Vada, on the spot where Belisarius's army had come ashore in 533 (*4). This event is treated at some length in the

III.8.

de Aedificiis, as though perhaps Procopius meant it to symbolize the rebirth of Romanized urban life in Africa that was to follow the termination of Vandal rule. While Belisarius's men were digging themselves in soon after disembarking, they struck an underground spring, which subsequently transformed the arid character of the area. As an immediate result, however, the army was able to pass a satisfactory night and to set out next day refreshed on the campaign that was to end at Tricamarum. 'So the Emperor Justinian, by way of bearing witness to the gift of God by means of a permanent testimony - for the most difficult task easily yields to his wish - conceived the desire to transform this place forthwith into a city which should be made strong by a wall and distinguished by other appointments as worthy to be counted an impressive and prosperous city; and the purpose of the Emperor has been realized. For a wall has been brought to completion and with it a city, and the condition of a farm land is being suddenly changed. And the rustics have thrown aside the plough and lead the existence of a community, no longer going the round of country tasks but living a city life. They pass their days in the market-place and hold assemblies to deliberate on questions which concern them; and they traffic with one another, and conduct all the affairs which pertain to the dignity of a city' (*5).

Other evidence for the encouragement to urban development under Justinian and his successors is provided by the known examples of towns that were renamed after members of the imperial house during the sixth century. Under Justinian, for example, four towns, Carthage, Hadrum-entum, Capsa and Zabi, were renamed Iustiniana or Iustinianopolis, while two others, Vaga and Cululis, became Theodoriana. At later dates,

III.8.

Iunci became Sofiana after the empress of Justin II; Mascula became Tiberia after Tiberius II Constantine; and Henchir Sguidan became Anastasiana after the same emperor's wife (*6). Despite the evidence for the interest taken by successive sixth-century emperors in encouraging urban development and prosperity in Africa, the results of their policies are hard to assess. At Caput Vada, for example, archaeology has yet to provide any evidence at all to substantiate the picture of burgeoning civil life presented by Procopius. At Thamugadi, the claims of the imperial propagandist that Solomon had rebuilt the city a fundamentis appear even more suspect, since the three identical inscriptions on which they are made came from the gateways of a purely military structure, a fort situated some 600 m. south of the original forum (*7).

It is impossible to estimate precisely the number of towns existing in Africa in the Byzantine period. Evagrius's figure of 150 towns restored by Justinian is doubtless an exaggeration. It may not be unrealistic, however, if it is taken to refer instead to the total number of ciuitates or municipia that were recorded as paying tax during Justinian's reign. The council of Carthage of 535 was attended by some 220 bishops, and 133 different episcopal sees are referred to by name in Africa between 533 and the end of the seventh century (*8). Now these figures show a significant fall in numbers from the 650 or so bishoprics that are estimated to have existed in Africa at the time of the council of Carthage of 411 (*9). It is of course well known that a see cannot always be taken to represent an urban community, since in Roman Africa even villae and fundi are recorded as having bishops. For this reason, the number of towns in Roman Africa is usually accepted to have been somewhat over 500 (*10). If, between 411 and 535, the

III.8.

number of towns fell by the same factor as the number of bishoprics, however, by 535 there would have only been about 170 towns in existence. While this consideration, though highly speculative, would lend support to the idea that the total number of tax-paying ciuitates in Justinian's Africa may have been about 150, and certainly no more than 200, it also suggests that the number of towns in Roman or Byzantine Africa had fallen by as much as one-third since the early fifth century (*11). To what extent the Byzantine reconquest and the subsequent period of Byzantine rule either accelerated or arrested the process of urban decline, however, is at present far from clear.

The economic basis on which almost all African cities depended for their livelihood in the sixth as in earlier centuries was agriculture. There is unfortunately scarcely enough evidence to allow one to say with any confidence whether African agriculture was more or less prosperous than that of other provinces in the sixth century. Since the third century, the whole empire had been faced by serious agrarian problems, which make themselves known in particular by the frequent references to agri deserti which occur in legal texts from the reign of Diocletian onwards. The abandonment of agricultural land was probably due in most cases to human rather than natural agencies, such as soil exhaustion, climatic change or land erosion. In Africa, the main causes seem likely to have been the relatively high level of taxation, which would often have eroded altogether the narrow profit-margins within which landowners had to work, insecurity caused by Moorish raids and a general shortage of agricultural labour, the explanation of which is only imperfectly understood (*12).

It seems likely, however, that in spite of these difficulties,

III.8.

which to a greater or lesser extent affected other parts of the empire as well, the decline of agriculture in Africa had not yet assumed serious proportions before the mid-fifth century. A law of Honorius, dated to 20 February 422, has often been cited as evidence for a dramatic reduction in the extent of cultivation on the imperial domains of Proconsularis and Byzacium in or before the early fifth century (*13). It appears, in effect, that 8,322 km² of land, representing one third of the imperial domain in these provinces, lay uncultivated at that date. As Lepelley has argued, however, there is no suggestion in the text that this land had ever been cultivated or was ever deemed suitable for cultivation. Indeed, the ratio of cultivated to uncultivated land given by the document (about 5:9) is roughly the same as that of arable to waste land estimated in the same area in the 1960s. Rather than providing evidence of a decline in agriculture, Honorius's law would therefore seem to suggest that no serious reduction in the extent of arable cultivation had taken place by the early fifth century (*14).

The explanation of this remarkable state of affairs seems to be that, far from declining, African agriculture went through a period of expansion in the third and fourth centuries. This expansion was based principally on the cultivation of olives. In the first century A.D., Pliny is not alone in suggesting that olives constituted a relatively insignificant part of the rural economy of Africa (*15). In the fourth century, however, the Expositio Totius Mundi records that Africa almost alone supplied the world with oil, while other sources show that the city of Rome was largely dependent on African oil to supply its population with food and lighting (*16).

The development of oil production in Africa was accompanied by an

III.8.

expansion of settlement into areas that do not appear to have supported settled life before the second century. P.-A. Fevrier refers, for example, to the large number of sites in central Numidia, possessing in most cases more than one Christian church as well as a multitude of olive-presses, which have failed to yield any pottery of the second century or earlier from surface collection (*17). A similar expansion in the third and fourth centuries has been identified by the same means in the area around Sufetula in Byzacium (*18). The principal olive-producing regions of late Roman Africa were the coastal areas of Tripolitania, Byzacium and south-eastern Cap Bon; the rich agricultural region of Proconsularis in and around the valleys of the Oueds Medjerda and Mellegue extending as far west as Madauros; an area around the borders of Proconsularis, Byzacium and Numidia, extending from Theueste east to Sufetula and Thel-epte and south to ad Tures and ad Maiores; the high plains of central Numidia and western Mauritania Sitifensis; and the valleys of the Oueds el-Abiod, el-Abdi and el-Kantara, to the south of the Aurès (*19). In none of these regions, however, need the extension of olive cultivation in the late Roman period be seen to imply a significant reduction in the extent of cereal farming, since there is every reason to believe that it was principally the marginal, previously uncultivated lands that were colonized in this way (*20).

A general decline in African agriculture probably only began in the mid or later fifth century, and its course and effects thereafter are far from clear (*21). The lack of detailed archaeological survey in the three main provinces of Byzantine Africa makes it virtually impossible at present to document the changes in the rural settlement pattern of the fifth and sixth centuries or to assess the roles played by different factors in producing change. One modest and necessarily superficial survey of rural sites lying within a 10 km. radius of

III.8.

Sufetula, however, gives an indication of the kind of evidence that detailed regional survey may one day hope to produce. Of nineteen sites in the region which yielded third- or fourth-century pottery from surface collection, only nine produced any of the fifth century and only two of these any of the sixth. The last two sites also possessed small fortified ksour, presumably of fifth- or sixth-century date (*22). The fifth- to seventh-century phase at Sufetula itself is also characterised by the construction of small fortified refuges and residences, and by the presence of buildings associated with agricultural processes, in particular olive-pressing, within the town centre. The relatively large number and the architectural wealth of the town's Christian basilicas that were either built or remodelled in the sixth century, however, suggest that it was still a flourishing centre of population at that date, even though it had undergone considerable topographical change and part of its earlier street grid had been abandoned and built over (*23). It is difficult to tell, however, whether or not the abandonment of settlement in the territorium of Sufetula was accompanied by any increase in the density or total area of settlement in the town itself, since most of the excavations that have taken place in the city have been more concerned with its monumental archaeology than with the poorer sort of dwelling, in particular those of late Roman or Byzantine date (*24). Comparison with other late Roman towns, however, such as Thuburbo Maius, whose monumental centre was 'invaded' by small dwellings with olive-presses in the fifth century, but which continued to exist at the level of a small agricultural community until at least as late as the mid-seventh century, would perhaps support the picture of a fall in population in both town and country at Sufetula, beginning in the fifth century (*25).

III.8.

One of the principal reasons for the abandonment of isolated rural settlements and for the movement of the rural population either to the towns or overseas can be recognized in the Moorish raids, whose frequency and extent increased during the last decades of Vandal rule (*26). There can be little doubt that the Byzantine reconquest of Africa, followed by the series of campaigns against the Moors and the implementation of the system of defence discussed earlier in this chapter, played an important part in delaying the process by which settled agrarian life gave way once more to pastoralism and nomadism over a wide area of north Africa during the early medieval centuries (*27). Another beneficial effect of the Byzantine reconquest, however, was to give African farmers easier access to markets for their produce. If sixth-century Africa emerges from the pages of contemporary writers as an area constantly rent by military disasters and religious dissension, the reason is partly that it was these two aspects of African affairs that most interested the writers of the day. In fact, Africa seems to have enjoyed a number of periods of relative peace and stability during the sixth century (*28). Carthago Proconsularis, Numidia and Byzacium had experienced almost ten years of uninterrupted peace before the Moorish revolt of 544 (*29), and when order was restored by John Troglitas in 548 the whole of Africa remained free from major disturbance until 562 (*30). Although there was intermittent, and at times serious, fighting between 569 and 595, it is not known how much of the prefecture was affected by it (*31). With the accession of Heraclius, Africa seems to have enjoyed a period of peace and prosperity which lasted virtually up to the time of the first appearance of the Arabs in Byzacium, in 646, though it should also be noted that this view is based principally on the absence of contrary evidence (*32).

III.8.

The effects of the Moorish raids on the rural population can only be guessed at. There are references to people fleeing to the Mediterranean islands at the time of the raids in Byzantium in 544/545, while those who could afford to went to Constantinople (*33). Refugees to Spain are recorded in the 570s (*34). Other less fortunate members of the rural population were carried off into slavery by the Moors. However, no quantifiable data are available to indicate the extent or the gravity of the disruption caused by raids. The incidence of the deposition of coin hoards, which has been used for example to illustrate the effects of the Slav raids on the Aegean coastlands in the early seventh century (*35), is unfortunately too low generally in Africa in the sixth and seventh centuries to be expected to give a very reliable indication of periods and geographical zones affected by unrest (*36).

Another cause of depopulation, whose effects cannot yet be adequately assessed, was the plague, which is recorded in Africa in 543 and 599 (*37). Procopius suggests that the plague of the 540s had disastrous consequences for the estates of the empire as a whole (*38). That the plague of 543 affected the countryside of Africa as well as the towns seems likely. In the present absence of quantifiable data, however, it would seem inappropriate to argue for the plague having been the principal cause of rural depopulation in the sixth century. The possibility should still be recognized, however, that the effects of the plague of 543 could have been as critical for the agrarian history of Byzantine Africa as were those of the Black Death for western Europe in the fourteenth century (*39).

As already noted, high levels of taxation were probably also a significant factor in causing the ruination of some landlords and the

III.8.

abandonment of non-profit-making lands in the sixth century. However, although at the time of the compilation of the new land survey of Africa between 533 and 539 numerous complaints were made about over-taxation, after 539 there is no further mention of the matter (*40). The posses-
sors who complained to Justin II that their lands were lying desolate put the cause down instead to the law of Justinian which allowed the offspring of an adscripticius and a free woman to be considered free-born (*41); and, in 582, Tiberius II Constantine, in response to renewed appeals from the bishop of Carthage and the possessores of Procon-
sularis, confirmed Justin II's repeal of this law, ut cultura terrarum
permaneant (*42). These appeals suggest, first, that, whatever the cause (*43), there was a general shortage of agricultural labour on the imperial estates of Proconsularis in the late sixth century, which made it necessary for possessores to take measures to prevent their tied coloni leaving the land. Secondly, as Jones points out, the number of free tenants must have been sufficiently large for marriages of adscrip-
ticii and freeborn women to have constituted a problem requiring app-
eals to successive emperors (*44). Evidence for the growth of a free tenantry in the sixth century is something that might be looked for in any future archaeological survey.

Despite the evidence for depopulation of the countryside, however, the ability of African agriculture not only to survive but apparently to prosper is shown by the importance accorded to exports of oil and corn in the seventh century. In 602, the exarch Heraclius prevented the corn ships leaving Africa for Constantinople, with the intention of provoking civil disturbance in the capital against the usurper Phocas (*45). Very little is known, however, about the methods of collecting

III.8.

and transporting of the annonae ciuicae from Africa in the sixth and seventh centuries (*46). At the time of Constans II (641-654) a tax referred to as the nauticatio was apparently levied in the west (*47), and a number of lead seals of commerciarii, dating from the reign of Justin II to that of Constantine IV with Justinian II (680-685), has been recovered from Carthage (*48). Reference has already been made to an ostrakon discovered at Négrine, recording the existence of an oliariu(s) arcariu(s) at Laudeti (?) in 542/543 (*49).

Whether Rome shared equally with Constantinople in sixth-century exports of oil and corn from Africa, however, is uncertain, though Gregory of Tours refers to the importation of oil from overseas, presumably Africa, at Marseille in the late sixth century (*50). The same question arises in the seventh century. A tradition recorded by the ninth-century historian Ibn^c Abd al-Hakam tells how after the battle of Sufetula, in 647, in which the exarch Gregory lost his life and a ransom of 2½ million dinars was paid to the Arabs, one of Ibn Sa^cd's followers asked an African whence came such sums of gold. The African bent down and picked up an olive stone, explaining that the Rūm came from across the sea to buy the oil (*51).

Items of export other than corn and oil, however, are attested from sixth-century Africa. The camels and dates recorded in Merovingian France are more likely to have come from Africa than anywhere else (*52). The North African potters, whose table-wares had dominated the markets of the eastern and western Mediterranean since the mid-third century, but whose trade had suffered a severe recession during the period of Vandal rule, were able to regain and maintain their former markets after the reconquest until the end of the sixth century. In

III.8.

the mid-seventh century, African RS ware was still being exported to Cyrenaica, Egypt, Palestine, Cyprus, Crete, the Aegean coastlands and the Black Sea (*55). In the sixth and seventh centuries, Carthage and other North African ports also served as points of trans-shipment for travellers going from southern Gaul and Italy to Constantinople (*54), and there are seventh-century references to commercial contacts with Sicily and Alexandria (*55).

To what extent these lines of commercial contact linked Africa socially or culturally to either the eastern or western Mediterranean provinces is a different matter. As Courtois points out, the contacts between Africa and Gaul in the late Roman and Byzantine periods seem to have been one-sided, since Africa displayed little or no interest in the affairs of the barbarian regions to the north (*56). The same was probably true of Spain, to which African people and architectural ideas went in the sixth century, but from which nothing is known to have come in return (*57). African contacts with Italy were probably stronger, especially in view of the Church of Rome's economic and spiritual interests there (*58). A one-sidedness in cultural relations may also have existed with the eastern provinces, however, with the transmission of ideas being again from east to west. Diehl has drawn attention to the existence of a number of eastern cults in Africa in the sixth century, mentioning in particular Sts. Julian and Romanus of Antioch, St. Isidore of Chios, the Three Young Hebrews and St. Leontius (*59). To these may be added St. Menas of Alexandria (*60), St. Pantaleon of Nicomedia (*61) and an unknown female saint of Bithynia (*62). There is no evidence, however, to suggest that the eastern calendar ever supplanted the African one in the sixth century (*63).

III.8.

It is known from the writings of Maximus Confessor that an influx of easterners, including many monophysites, took place at the time of the Arab invasions of Syria and Egypt in the 630s and 640s (*64). The epitaph of one of these, an Egyptian named Helladius who came to die amongst the Afri, has been found at Oea (*65). Apart from the merchant colonies of Carthage and other coastal towns, however, the number of easterners who came to settle in Africa in the sixth or early seventh century seems to have been relatively small, amounting probably to few more than a handful of government officials and their families (*66).

Apart from the evidence of fortifications, Byzantine cultural influence in sixth-century Africa may be seen most particularly in church architecture and decoration (*67). In general, the form of churches underwent little change, except for a tendency for the apse to be placed at the eastern end. Central planning with cupolas is found at Bulla Regia, Iunci, Sufetula, Carthage and perhaps Sidi Melliti (*68). Altar tables tended to be moved from the centre of the nave to the apse, where benches for the clergy were also commonly provided. The decoration of church buildings shows both local and metropolitan influences. Marble capitals and other sculptural ornaments were imported from the imperial quarries at Proconnessos to adorn Justinian's new churches in Tripolitania and Byzacium (*69). Local sculpture was also influenced by these imports, as one might expect if they were shipped in a roughed-out state and only finished on arrival at their destination (*70). Even the work of the two schools of mosaicists that have been identified in western and south-eastern Tunisia was not untouched by Byzantine influence. Comparisons have also been drawn between African provincial art of the sixth century and that of the northern Adriatic region, Spain and the Balearics (*71).

III.8.

Whatever the east may have contributed to its art and architecture, however, the language of culture in Byzantine Africa remained almost exclusively Latin (*72). Greek inscriptions form only a small minority of the total number of late Roman and Byzantine texts, and even amongst the official sixth-century inscriptions recording the construction of fortifications they represent only six out of a total of thirty-six; and of these six, four are bilingual (*73). Byzantine Africa produced the Latin poet Corippus, besides a large quantity of ecclesiastical texts in Latin. Justinian's civil list of 534 made provision for two grammatici and two orators to be employed at government expense in Carthage (*74), and an inscription from Mactaris suggests that the teaching of rhetoric and medicine was not restricted to the capital (*75). A number of metrical inscriptions, one from as remote a locality as Henchir Zoura, south of Theueste, show that the Christian population was still familiar with poets such as Vergil and Martial (*76).

One of the main instruments which helped preserve a Latin cultural identity in late Roman and Byzantine Africa was the Christian church (*77). The tradition to which Facundus was appealing when he spoke of the pietas et constantia ecclesiae Latinae, however, seems to have owed more to earlier African Christianity than to either sixth-century Rome or the revived Roman empire of Justinian (*78). Throughout the period of Byzantine rule in Africa, the African church resisted attempts by Rome and Constantinople to meddle with the orthodox doctrines accepted by the council of Chalcedon and with its own internal administration. Facundus's denunciation of Justinian's attempt to suppress the Three Chapters and to cow the African church into acceptance of a new form of orthodoxy by means of the repressive powers of the state should be set

III.8.

against the evidence of imported architectural finery mentioned above: 'The Catholic faith and the pax christiana are not to be found within the walls of 'manufactured churches' (manufactas ecclesias) sustained by the support of the imperial palace, their Catholic bishops deposed' (*79). Although Arianism seems to have been extinguished soon after the suppression of the mutiny of 536/537 (*80), Donatism survived at least until the end of the sixth century. In Numidia at that time, however, a modus uiuendi had been established between Catholics and Donatists; Catholic bishops gave preferment to Donatist priests and an ex-Donatist could become a bishop of the Catholic church. Neither the civil nor the ecclesiastical authorities of the province paid much attention to Gregory the Great's attempts to check what he considered to be abuses of this kind (*81). In matters of doctrine and church leadership, however, the African church still looked more naturally towards Rome than Constantinople. And when Constantine II showed signs of accepting the monothelite heresy at the very time when the African church was denouncing it and enlisting the papacy on the side of established orthodoxy, the result was the proclamation of the exarch Gregory as emperor, which led indirectly to the disaster of Sufetula in 647 (*82).

Evidence for the survival of municipal and provincial institutions is slight. The continued existence of provincial assemblies is suggested by the appeal made to Tiberius II Constantine by the bishop of Carthage and the possessores of Proconsularis (*83). As well as the proceres of Carthage, to whom Corippus addressed his Iohannidos, and the seniori urbis recorded in 589 (*84), Procopius mentions the notables of Hadrumentum and Sullectum (*85). Amongst the latter, the priest appears to have taken a leading rôle, and Corippus also relates

III.8.

how the priest of Iunci assumed leadership of the townsfolk there when they were surrounded by the Moors (*86). How far the tribunes commanding town garrisons came to be in effect town governors, as they did in Italy and Egypt, is uncertain, although, as mentioned above, the association of a tribunate with the name of the town suggests that this may have occurred at Rusguniae (*87). The only municipal magistrate known by name in Byzantine Africa is Mustelus, defensor urbis at Ammaedara (*88); however, the magister of a locus is recorded at Aïn el-Ksar (*89). Probably, as in the east, town councils as such no longer existed and municipal administration was carried on by officials elected by the bishop, clergy and prominent landowners or nominated by the provincial governor. The curial orders, however, probably still continued to collect imperial revenues and perform liturgies for the state (*90).

Examples of munificence are not uncommon in Africa after the later fifth century. At Ammaedara, for example, a mosaic in basilica II (of Candidus) was 'made' by Candidus and Adeudata (*91); at Thagaste, the 'blessed Catholic Church' received a benefaction, ex officina Fortunatiani (*92); at Henchir Rouïs, a chapel was dedicated to the martyr Januarius by Monica and the work performed by the officina Adriani (*93); while, in Carthage, a piece of land was donated to the church by Callistratus, whose tomb lay in the basilica called the Damous el-Karita (*94). The rôle played by private individuals in the construction of fortifications has already been discussed elsewhere (*95). Secular buildings provided by individuals, however, include a macellum, built at Khanguat el-Hadjaj in Proconsularis by Couuldus (*96); fountain seats restored de donis Dei at Ciuitas A... (Medoudja), near

III.8.

Mactaris (*97); and a fountain (?), built at Ksar Sbahi by a magister fundi, Serotinus (*98).

Any attempt at interpreting the topography of late Roman and Byzantine towns in Africa runs up against the recurring problem that the only structures datable to the late fifth century and after are usually the churches and, if any exist, the defences. As P.-A. Février has stated, however, the evidence for a sudden abandonment of towns in the fifth century that some excavators had claimed to have found was more often than not the result of their own incompetent methods of excavation, which had destroyed the evidence of late occupation (*99). Only in recent years, with the introduction of more refined methods combined with a growing interest in late Byzantine and early Arab archaeology, has it become possible to gain an appreciation not only of the lengthy duration of occupation at some sites after the seventh century but also of the likely extent of the destruction of valuable evidence that took place at others during the era of the grands champs des fouilles (*100).

Until a sufficiently large body of information derived from properly conducted excavations is available, it will not be possible to attempt any very detailed or systematic analysis of the topography of late fifth- and sixth-century towns in Africa (*101). Some general observations may still be made, however, using the topographical indications given by churches and fortifications. One of the most obvious features of African towns in the period under discussion is the movement away from the original nucleus of settlement, centred on the forum, and the formation of a number of new foci in the churches that had developed originally either from suburban town houses or from extra-mural funerary basilicas. To what extent this centrifugal movement was accompanied

III.8.

by a reduction in either the density of settlement or in the overall level of population cannot be assessed in the present state of ignorance on the subject of domestic buildings. The presence of olive-presses in the old town centres of Sufetula and Thuburbo Maius would suggest one if not both (*102). The construction of forts in the sixth century directly over the forum squares at Thugga, Madauros and Tubernuc does not therefore necessarily denote a decline in the urban functions of the settlements concerned (*103).

Another question concerns towns that were provided with walls in the sixth century. The size of these town enceintes varies considerably, from Carthage and Lepcis Magna I, enclosing 390 and 44 ha. respectively, down to Sitifis and Thubursicu Bure, enclosing only 1.69 and 1.76 ha. (*104); at the last two sites it is not even certain whether the enceintes would have held a civilian population. With the exception of a handful of major towns, such as Carthage, Constantina and perhaps Caesarea, however, where the lines of the pre-Vandal walls were retained, a general feature of all sixth-century town defences in Africa is the small area that they enclose compared with the areas defended in earlier centuries. A contraction of the defended area is clearly demonstrated at Calama, Theueste, Lepcis Magna (whose first Byzantine wall enclosing 44 ha. was reduced to enclose only 28 ha. during the course of construction), Sabratha and Choba, where pre-Vandal walls survive. Although the population of at least one of these towns, Lepcis, is known to have fallen between the early fifth and early sixth century, the suggestion that a reduction in the fortified area always betokens a fall in population cannot be accepted. It would seem very likely that in sixth-century Africa, as in third-century Gaul (*105), the area enclosed by

III.8.

a town's walls was determined more by the military and administrative requirements of the central government than by the size of the local population. Although provision would often have been made to receive the civilian population into the citadel in times of crisis, and although in some of the larger enceintes, such as Laribus which was besieged by the Moors in 544, there would probably also have been a resident civilian population, in most of the African towns that were given fortifications in the sixth century the majority of the population would have continued to live round about them in faubourgs. At Ammadara, for example, four churches lay outside the citadel, while the one that lay inside was probably intended to serve no more than the needs of the garrison. Even at Theueste, whose enceinte enclosing 7.5 ha. was relatively large by Byzantine African standards, there are traces of fifth- to seventh-century settlement, represented by fortified houses and refuges, extending over some 50 ha. round about the fortified town centre (*106). At Sabratha, on the other hand, the southern part of the Byzantine town wall was built through an area of the town that had already been deserted by the sixth century (*107). Excavation at Sitifis, however, has produced evidence for almost continuous occupation of the area just west of the fortress walls from the first century A.D. well into the Muslim period (*108).

At some towns, the needs of defence may have brought about a shift of settlement altogether. At Castellum Tidditanorum (*109), Thugga (*110) and Thibilis (*111), for example, there is some evidence to suggest that the pre-Roman hilltop nuclei of the towns were reoccupied in the sixth century or later. Reoccupation of pre-Roman acropolis sites is a common feature of late Roman and early medieval settlement in many

III.8.

areas of the Mediterranean basin (*112). The trend, and the reasons for it, were recognized by the sixth-century author of the de Re Strategica: 'But I am not ignorant that many who saw the existing prosperity and thought that it would last for all time paid no more attention to security than to amenity, when they were about to create great cities. Therefore they often built them on plains, beautifying them with gardens, paradises and meadows. But we, seeing that the future is obscure and choosing security before amenity, plan to create cities and gird them with walls in those places where the devices of besiegers would be ineffective' (*113). In Africa, nowhere is the movement of settlement to the hilltops more apparent than in the parts of Numidia and Numidia Proconsularis lying south of Calama (*114).

It has not been possible in this section to give more than an impression of the quality of life enjoyed by the provincials in the century after the reconquest of Africa. As Diehl has observed, however, the most significant result of the reconquest and military defence of Africa in the sixth century was to prevent the whole of former Roman Africa being overtaken by the fate that had already befallen a large part of it: 'Pendant deux siècles, les basileis ont entretenu dans ces provinces un dernier reflet de la civilisation romaine; sans Justinien, le royaume vandale, si faible, eût bien vite cédé la place à la sauvagerie berbère: les empereurs ont retardé de deux siècles la catastrophe qui a fait disparaître les derniers vestiges de la culture romaine' (*115). In the mid-seventh century, Constantinople was still being supplied with African corn and oil; in the farthest parts of Numidia, inscriptions were still being dated according to the year of the emperor's reign and consulate and the indiction (*116); and the

III.8.

African church was playing a leading rôle in the debate over monothelism. However, from the empire's point of view, Byzantine Africa was a wasting asset; even within the borders of Justinian's provinces, the number of people who still regarded themselves as members of a wider Roman empire had probably dwindled considerably since the mid-sixth century. Furthermore, ideas of romanitas had developed along different lines in Africa and the east since the fourth century (*117). In deciding to go their own way in 646, however, the Roman Africans cut themselves off from their natural allies. The battle of Sufetula in 647 marked in effect the end of Byzantine Africa, since, as has been argued above, the destruction of the African field-army and the subsequent failure of the local or imperial authorities to reconstitute it, left Africa virtually without defences; it was then only a matter of time before local pockets of resistance were reduced by the Arabs.

III. Appendix 1.

CITIES REFERRED TO IN DE AEDIFICIIS (A.D. 553/555).

Cities at which Procopius makes no reference to fortifications are marked with an asterisk; the remainder he records as having been fortified by Justinian.

The references are abbreviated as follows: CJ = Cod. Iust.; Cor. = Corippus; DP = Duval (N) and Prévot 1975; GC = George of Cyprus; IS = Isidore of Seville, Hist.; M = Maier 1973; Proc. = Procopius.

Site No.	Name	<u>de Aedificiis</u>	Other references	Nature of fortification from indep. means
1	CARTHAGO IVST.	VI, 5, 2.	Proc. III-IV, <u>passim</u> ; GC 640 (?).	TW
3	AD TVRRES	VI, 7, 10 (?)		?
5	AMMAEDARA	VI, 7, 10.	<u>urbs</u> (DP, no. 121-122); GC 661.	TW
6	BADIAS	VI, 7, 8.	GC 659	?
7	BAGAI	VI, 7, 8.		TW + F
10	CALAMA	VI, 7, 10.	<u>urbs</u> (Gaz.CB, Inscr. 19); GC 655.	TW
12	CAPVT VADA	VI, 6, 13-16		?
16	CVLVLIS THEOD.	VI, 6, 18.	<u>urbs</u> (Gaz.CB, Inscr. 4); GC 651.	TW + F
-	*GIRGIS	VI, 4, 14.	VI, 4, 14.	-
19	HADRVMENTVM IVST.	VI, 6, 1; 6, 6.	Proc. III-IV, <u>passim</u> ; <u>urbs</u> (Cor., <u>Ioh.</u> , IV, 8); <u>ciuitas</u> (a.553: M 151); GC 653	TW
23	LARIBVS	VI, 7, 10.	<u>urbs</u> (Cor., <u>Ioh.</u> , VII, 143).	TW + F
25	LEPCIS MAGNA	VI, 4, 1-3.	<u>ciuitas</u> (CJ, I, 27, 2, 1a); GC 797.	TW + F
27	MAMMA	VI, 6, 18.	GC 649	?
29	MIDILI (?)	VI, 7, 10 (?)		?
30	MILEV	VI, 7, 8.	<u>ciuitas</u> (a.553: M 173).	TW
31	OBBA	VI, 7, 10 (?)	<u>ciuitas</u> (a.553: M 182).	?
32	OEA	VI, 4, 11.	GC 798.	TW
33	SABRATHA	VI, 4, 13.		TW
35	SICCA VENERIA	VI, 7, 10.		TW + F

III. Appendix 1 (cont.).

Site No.	Name	<u>de Aedificiis</u>	Other references	Nature of fortification from indep. means
36	SITIFIS	VI, 7, 9.	GC 667.	TW
38	*TACAPAE	VI, 4, 14.	<u>urbs</u> (Cor., <u>Ioh.</u> , VII, 3).	TW
41	THAMVGADI	VI, 7, 8.	<u>ciuitas</u> (Gaz.CB, <u>Inscr.</u> 25-27).	F
42	THELEPTE	VI, 6, 18.	<u>ciuitas</u> (CJ, I, 27, 2, la); GC 645.	TW + F
45	TIGISI	VI, 7, 10.	<u>ciuitas</u> (?)(a.602: M 223); GC 664.	TW
46	VAGA THEODORIANA	VI, 5, 12-15	GC 665.	TW
Unlocated:				
-	LAMFVENISIS	VI, 7, 10.		?
-	Κιλανά	VI, 7, 10.		?
-	'Ουδοβων	VI, 7, 10.		?
-	Φλωρεντιανή	VI, 7, 8.		?
-	Φρίκη	VI, 7, 9.		?

III. Appendix 2.

FORTS REFERRED TO IN DE AEDIFICIIS (A.D. 553/555).

For explanation of references, see Appendix 1.

Site No.	Name	<u>de Aedificiis</u>	Other references	Nature of fortification by indep. means
17	DIANA VETERANORVM	VI, 7, 8 (?)		F
34	SEPTEM	VI, 7, 14.	<u>castrum</u> (IS, 42) (cf. Appx. 3).	?
39	THABVDEOS	VI, 7, 8 (?)		?
44	THVGGA	VI, 5, 15.		F
Unlocated:				
	FOSSALA	VI, 7, 11.		?
	SCILLIVM	VI, 7, 11.		?
	'Αυμέτρα	VI, 6, 18.		?

III. Appendix 3.

SETTLEMENTS REFERRED TO AS CITIES DURING THE REIGN OF JUSTINIAN, BUT NOT REFERRED TO AS SUCH IN DE AEDIFICIIS.

For explanation of references, see Appendix 1.

Site No.	Name	References	Nature of fortification where attested
9	CAESAREA	<u>ciuitas</u> (CJ,I,27,2,1a); <u>πόλις</u> (Proc. IV, 20, 31).	TW
11	CAPSA IVSTINIANA	<u>ciuitas</u> (CJ,I,27,2,1a); GC 643.	TW + F
15	CONSTANTINA	<u>ciuitas</u> (CJ,I,27,2,1a); GC 666.	TW + F
20	HIPPO REGIVS	<u>πόλις</u> (Proc. IV, 4, 26); GC 657.	TW + F (?)
-	LEPTI MINVS	<u>πόλις</u> (Proc. III, 17, 8); <u>ciuitas</u> (a.646: M 160-161).	-
26	MADAVROS	<u>πόλις/ciuitas/urbs</u> (?) (Gaz. CB, Inscr. 5).	F
34	SEPTEM	<u>oppidum</u> (IS, 42); GC 671a (cf. Appx. 2).	F
112	SVLLECTHVM	<u>πόλις</u> (Proc. III, 16, 9-10)	-
40	THAGVRA	<u>πόλις</u> (Gaz.CB, Inscr.12).	F
43	THEVESTE	<u>πόλις</u> (Proc. IV, 21, 19); <u>ciuitas/urbs</u> (?)(Gaz. CB, Inscr. 23); GC. 656.	TW
47	ZABI IVSTINIANA	<u>ciuitas</u> (Gaz.CB, Inscr. 2).	?
69	ZATTARA	<u>municipium</u> (a. 553: M 244).	TW
Unlocated:			
-	BOSSA (P)	<u>ciuitas</u> (a.553: M 117).	-
-	SINNA (P)	<u>municipium</u> (a.553: M 201).	-
-	VICTORIANA (B)	<u>ciuitas</u> (a.553: M 239).	-

III. Appendix 4.

SETTLEMENTS REFERRED TO AS CITIES LATER THAN THE REIGN OF JUSTINIAN.

For explanation of references, see Appendix 1.

Site No.	Name	References	Nature of fortification attested by indep. means
74	ANASTASIANA	Anastasiana (Gaz.CB, Inscr. 32)	F
-	APISA MAIVS	GC 648 (?)	-
-	CANOPIITANA ECCLESIA	<u>municipium</u> (a.646: M 121).	-
-	CILLIVM	GC 643a.	-
72	IVNCI SOFIANA	<u>Sofiana</u> (a. 646: M 156).	TW
-	MADARSVMA	GC 650.	-
75	MASCVLA TIBERIA	<u>Tiberia</u> (Gaz.CB, Inscr. 33).	TW
-	RVSUCCVRV	GC 669 (?)	-
-	SEGERMES	<u>municipium</u> (a.646: M 196).	-
37	SVFES	GC 642.	TW
60	SVFETVLA	GC 653a.	-
-	THAENAE	<u>ciuitas</u> (a.646: M 215).	-
-	THAPSVS	GC 652 (?)	-
-	THIGES	<u>ciuitas</u> (a.646: M 217).	-
-	THYSDRVS	<u>ciuitas</u> (a.646: M 80; 221).	-
76	TVBERNVC	<u>ciuitas</u> (?) (Gaz.CB, Inscr.34).	F
-	VSVLA	<u>ciuitas</u> (a.646: M 233).	-
Unlocated:			
-	CASAE CALANAE	GC 646.	-
-	GVMMI (B)	<u>ciuitas</u> (?) (a.646: M 149-150).	-
-	SCILLIVM	GC 662 (cf. Appx. 2).	-
-	TAMAZENI (B)	<u>ciuitas</u> (a.646: M 201).	-
-	Καστέλλια	GC 647.	-
-	Ἰζιριανήσιον	GC 663.	-
-	Τόσιβα	GC 796.	-

III. Appendix 5.

THE RANKING OF BYZANTINE FORTIFICATIONS IN AFRICA BY SIZE.

Site No.	Site Name	Area enclosed (in ha.)	Regular (R) or Irregular (I) plan
1	CARTHAGO	390.00	I
9	CAESAREA	370.00 ?	I
32	OEA	50.00/55.00?	I
25	LEPCIS MAGNA I	44.00	I
15	CONSTANTINA	38.40	I
19	HADRVNENTVM IVSTINIANVM	32.00 ?	I
25	LEPCIS MAGNA II	28.00	I
59	RVSGVNIAE	19.50 ?	I
33	SABRATHA	8.50/9.00	I
7	BAGAI (wall)	8.20	I
43	THEVESTE	7.50	R
8	Bordj Hallal	7.25	I
50	CHIBA	7.00	I
42	THELEPTE	5.25	R
30	MILEV	5.14	I
10	CALAMA II	4.33	I
23	LARIBVS (wall)	4.09	R
45	TIGISI	3.96	I
24	LARISCVS	3.60	I
16	CVLVLIS THEODORIANA (wall)	3.24	I
69	ZATTARA	2.74	I
5	AMMAEDARA	2.55	I
65	TIPASA (wall)	2.25	I
37	SVFES (wall)	2.09	R
53	Guelâa Sidi Yahia	1.83 ?	I
70	THVBVRSICV BVRE	1.76	I
36	SITIFIS	1.69	R
10	CALAMA I	1.55	R
21	Ksar Belezma	1.40	R
62	THAMALLVLA	1.10	R
11	CAPSA IVSTINIANA	< 0.80 ?	I
41	THAMVGADI	0.75	R
55	Ksar Otsman	< 0.55	I
40	THAGVRA	0.53	I
66	TVBVNAE	0.50	R
48	Aïn Metouïa	0.48	R
7	BAGAI (larger fort)	0.44	R
71	TIGNICA	0.38	I
57	MACTARIS	< 0.35	I
17	DIANA VETERANORVM	0.29	R
44	THVGGA	0.28	I
14	CHVSIRA	0.28	I
64	THVGGA TERESENTINA	0.26	R
74	ANASTASIANA	0.24	R
26	MADAVROS I	0.24	R
65	TIPASA (fort ?)	0.22	I
52	Gastal	0.21	R

III. Appendix 5. (cont.)

Site No.	Site Name	Area enclosed (in ha.)	Regular (R) or Irregular (I) plan
22	Ksar Graouch	0.21	R
58	MVSTI	0.20	I
54	Kef el-Kherraz	< 0.20	I
68	ZARAI	0.17	R
26	MADAVROS II	0.17	I
18	GADIAVFALA	0.16	R
76	TVBERNVC	0.12	R
37	SVFES (fort)	0.12	R
77	AGBIA	0.10	R
23	LARIBVS (fort)	0.10	R
79	LIMISA	0.09	R
4	Aïn Bou Driès, Hr.	0.09	R
67	VPPENNA	0.08	R
7	BAGAI (smaller fort)	0.07	R
16	CVLVLIS THEODORIANA (fort)	0.05 ?	R
63	THVBVRSICV NVMIDIARVM	0.04	R
73	Aïn el-Ksar	0.02	R
28	MASTICANA	0.02	R

III. Appendix 6.

SIXTH- AND SEVENTH-CENTURY COIN HOARDS FROM AFRICA.

For explanation, see Ch. III.8: n.36.

No.	Site	Prov.	<u>terminus</u> <u>post quem</u>	Number of coins found (recovered)	Bibliography
1.	CARTHAGO	CP	430/533	3418 Cu.	Delattre 1901, 188; Lafaurie 1960, 127; Troussel 1951, 169.
2.	CASTELLVM TINGITANVM	MT	430/533	600+ (61) Cu.	Hoc 1933; Lafaurie 1960, 127-128.
3.	RVSICADE	N	430/533	? Cu.	Borrell 1855, 5.
4.	CVICVL	MS	491/518	180 Au.	Albertini 1924, clxiii-clxiv.
5.	el-Hamma	N	496/523	1668 (103) Cu.	Lafaurie 1960, 124- 126; 128; Troussel 1951, 172-187.
6.	LEPCIS MAGNA	T	498/518	2115 (1671) Cu.	Goodchild 1976, 116- 117.
7.	Hr. Bou Lilate	N	523/533	103 Cu.	Lafaurie 1960, 115; 124; 126; 128; Troussel 1951, 165- 172.
8.	CALAMA	NP	523/533	? Cu.	Borrell 1855, 5; 11; Turcan 1972, 142.
9.	VICVS GEMELAE	B	523/533	836 + ?37 Cu.	Lafaurie 1960.
10.	ALBVLAE	MC	527/565	? Au.	Fey 1858, 421.
11.	el-Asàbaa	T	527	<u>c.</u> 300 Cu.	Bartoccini 1929, 92; Ward-Perkins and Goodchild 1953, 37.
12.	SITIFIS	MS	527/533	19 Cu.	Hinglais 1904, 167- 168.
13.	THIBILIS	N	527/533	c.200(22+63)Cu.	Turcan 1972; Guéry and Turcan, forth- coming.
14.	TIPASA	MC	527/538	1228 Cu.	Lafaurie 1960, 128; Turcan 1961, 213-220; 242-251
15.	Nr. Sousse	B	530/533	? Cu.	* de Bray 1927, 50; Lafaurie 1960, 128; Troussel 1951, 169.
16.	THYSDRVS	B	540/545	<u>c.</u> 200(62) Au.	Guéry, no. 4.

III. Appendix 6 (cont.)

No.	Site	Prov.	<u>terminus</u> <u>post quem</u>	Number of coins found (recovered)	Bibliography
17.	LEPTI MINVS	B	542/565	c.10 (5) Au.	Guéry, no. 5.
18.	Djébibina	B	565/578	? (7) Au.	Guéry, no. 6.
19.	CAST. TIDDI- TANORVM	N	610/641	692 (297) Cu.	Laily 1971.
20.	? (N. Africa)	?	613	? (12) Au.	Guéry, no. 7.
21.	Sidi ben Slimane des Zaërs	MT	613/641	4-5 Au.	Brethes 1939, 20 no. 222-223; pl. V; Rebuffat 1974, 31; Thouvenot 1951, 474.
22.	Es-Sermita	B	614/615	33 (9) Au.	Guéry, no. 8.
23.	BVLLA REGIA	NP	620/621	c. 70 (62) Au.	Guéry, no. 9.
24.	La Goulette	CP	630/631	c. 69 (41) Au.	Guéry, no. 10.
25.	? (N. Africa)	?	632/633	? (17) Au.	Guéry, no. 11.
26.	THVBVRBO MAIVS	CP	632/633	151 Au.	Guéry, no. 12.
27.	Hr. Sidi Amor Bou Hadjela	B	637/638	50 (18) Au.	Guéry, no. 13.
28.	BARARVS	B	646/647	268 Au.	Guéry, no. 15.
29.	CARTHAGO	CP	646/647	72 Au.	Guéry, no. 14.
30.	Nr. Tunis	CP	654/659	50 (14) Au.	Guéry, no. 16.
31.	ARADI	CP	668	? (12) Au.	Guéry, no. 17.
32.	CARTHAGO	CP	668	200 (28) Au.	Guéry, no. 18.
33.	CARTHAGO	CP	?	?	Guéry, no. 1.
34.	CARTHAGO	CP	?	80 Au.	Guéry, no. 2.
35.	La Goulette	CP	7th c.	1000 Au.	Guéry, no. 3.

CHAPTER IV.

MILITARY ARCHITECTURE AND TACTICS.

1. Introduction.

Of all the parts of the Roman Empire whose defences were strengthened under Justinian and his successors in the sixth century, the Byzantine prefecture of Africa represents an area of particular interest to historians of military architecture. The reasons for this lie principally in the history of fortification in the region during the three centuries that preceded the Byzantine reconquest. For the failure of the Byzantine army to reoccupy the whole of Roman Africa as far as the desert frontiers, together with the general lack of any pre-existing fortification in the area lying behind the heavily defended Roman frontier zone and, if Procopius's evidence is to be accepted on this point, the tearing down of such city walls as did exist (with the exception of Carthage and a few others) by the Vandals in the course of the fifth century (*1), meant that no ready-made system of defences existed in the early sixth century to be adapted and augmented by Justinian's generals and military engineers. Furthermore, as has been argued already (*2), the sixth-century defensive system was based on principles different from those that had governed the strategy of pre-Vandal Africa; instead of concentrating their forces on the outer fringes of the reconquered provinces, the Byzantines spread their field-forces evenly over the whole country and constructed a network of fortified strong-points to serve both as bases for the troops and as refuges for the civilian population. Thus, in contrast with many of the fortifications erected by Justinian in Cyrenaica, along the Danube and in the frontier regions of Syria and northern Palestine, the greater proportion of sixth-century African fortifications were built a fundamentis.

The significance of this fact for the study of military architec-

IV.1.

ture in the age of Justinian is obvious. It means that the plans of the forts and town defences erected during this period in Africa would have been largely unaffected by the existence of earlier defensive structures on the same site; and it enables sixth-century fortifications to be distinguished with relative ease from those of earlier date (*5). Since it is also often the case that sixth-century fortifications underwent few, if any, structural alterations after the fall of Byzantine Africa in the later seventh century, the surviving monuments often present only a single structural phase (*4).

Although the fortifications of Byzantine Africa were for the most part completely new, however, the same was not true of the techniques of design and construction to be seen in them. The theoretical principles on which Byzantine fortification in the sixth century was based may be sought in the contemporary writings of military theorists, whose ideas derive in part from a Hellenistic tradition the origins of which may be traced back as early as the late third century B.C. and the writings of Philon of Byzantium (*5). Of the nine treatises surviving in whole or only in part from the sixth century A.D., only two deal extensively with fortification. These are the anonymous de Re Strategia, written probably in the mid-to later sixth century, and the Strategicon, at one time generally considered to have been written by, or for, the Emperor Maurice and dating certainly to before c.630 and probably to before 602. (*6).

It would be wrong to assume, however, that Byzantine military engineers worked solely according to the book. The diversity of building types to be seen not just in Africa but in the rest of the Empire as well demonstrates that this cannot have been the case.

IV.1.

Where, therefore, might one expect to find the prototypes of the Byzantine fortifications of Africa? Unfortunately neither the names nor the origins of the mechanicoi or architectones assigned to the task are known to us. However, Procopius supplies some information on the origin of the officers and troops who took part in the initial campaign of reconquest under Belisarius. Although a native of Moesia Superior in the central Balkan region, much of Belisarius's own military experience had been gained on the eastern frontier fighting the Persians; and it was from Syria that he, together with his personal bodyguard, came to lead the expedition to Africa. More significant, perhaps, was Solomon, born near Dara, the city founded by Anastasius I in Mesopotamia (*7), who as praefectus and magister militum Africae from 534 to 544 was responsible for the construction of most of the fortifications from which there are datable inscriptions. Other members of Belisarius's entourage included Armenians and Greeks, the majority, however, being inhabitants of Thrace (*8). Thus, if we may assume that the engineers who laid out the new fortifications built by the army in Africa came from the same parts of the Empire as the officers listed by Procopius, the areas most likely to present comparable structures would include Syria and the Balkans, in particular Thrace.

Beside these possible external influences should be set the local factors which may have affected both the design and the construction of fortifications. The availability of building materials and the use of local labour, as attested at Carthage in 533 (*9), may be expected to have affected points of detail. The nature and capabilities of the enemies against whom they were built would have influenced the designs themselves; the lack or rarity of certain features, such as the penta-

IV.1-2.

gonal tower and the proteichisma for example, may be explained by the Moors' inexperience in siegecraft (*10). Finally, although, as already stated, most of the fortifications were new, a few were not. The Vandals had omitted to destroy the walls of Carthage, and the same may have been true also of Hippo Regius and Constantina; one may reasonably doubt, in any case, the extent to which the Vandals' programme of demolishing town walls was carried out in view of the enormous labour-cost involved. There is also the possibility that some of the Roman frontier-forts were reoccupied in the sixth century (*11); these earlier forts may also have had some influence on the design of sixth-century fortifications.

In this chapter, the different elements of sixth-century Byzantine fortifications in Africa will be analysed individually and their possible origins investigated. In conclusion an assessment will be made of the relative importance of different sources of inspiration.

2. Building techniques

The first fortifications to be erected in Africa by the Byzantine army were of wood and earth. At Caput Vada, Belisarius's force defended the beach-head with a ditch and palisade, made of pointed stakes (X) (καράκωμα) which may well have been brought in by sea ready-made (*1). In his account of the campaigns of Belisarius against Gelimer (533-534), Solomon against the Moors in Byzantium (535), Belisarius against Stotzas (536) and Solomon against the Moors in Aurasium (539-), Procopius makes frequent mention of stockaded marching-camps. Such camps were built by the Byzantine forces under Solomon at *Mamma (*2) and again following his retreat from Aurasium (*3); by Belisarius at Membressa (*4) and

IV.2.

by Guntarith near Bagai (*5). The Vandals built a stockade at Tri-camarum, but 'it had not the character of a fort' (*6). The mutineers under Stotzas, however, trained in Byzantine military techniques, built marching-camps like their former masters at Membressa and Cellas Vatari (*7). It is unfortunate that none of these documented examples, or of the many others that must have existed, has been located by aerial photography or by ground survey, enabling a systematic study of its layout and defences to be made. Only at Lariscus have aerial photographs revealed a large ditched enclosure which may perhaps relate to the fossae dug by John Troglitas's troops in 548.

Fortifications intended for more permanent occupation were built of stone or, in places where this was not easily obtainable, of brick. Most fortifications were so sited as to be able to make use of existing supplies of cut stone derived from earlier abandoned buildings. This practice, besides being permitted by law (*8), was recommended by the author of de Re Strategica (*9). There is no reason to see in such activities either a sign of decadence or evidence for a decline in building skill on the part of sixth-century masons. Neither need speed, a factor repeatedly stressed by Diehl (*10), always have been the prime motivation behind it, for the same practice is found in other sixth-century buildings, notably churches (*11). Where cut stone was available, it must have seemed logical to use it, and the fact that it came in most cases from destroyed pagan temples and abandoned public buildings erected to the honour of long-dead pagan emperors can have concerned the sixth-century fort-builders much less than it has apparently worried some classical archaeologists of more recent times (*12). Besides, as has already been argued, towns were more often chosen as

IV.2.

the sites for fortifications for strategic reasons than for the supply of building-material that they offered. The lay-out of a fort or fortress would of necessity have entailed the demolition of the buildings that stood in its way or obstructed the field of view from its ramparts (eg. Sabratha, Thugga). Where insufficient cut stone was available, as apparently in part of the enceinte at Ammaedara, Byzantine provincial masons were quite capable of supplying it. Proof of the high quality of their work can still be seen in the circular towers at Ammaedara, Cululis, Bagai and Thelepte, in the vaulting inside the towers at Thamugadi and Theueste, and in the churches built at Ammaedara and Sicca Veneria (*13).

The normal method of construction employed for walls and towers in Africa in the sixth century consisted of internal and external facings of large ashlar blocks enclosing a mortared rubble core; the facings and the core were laid together in courses, and the former bonded into the latter by means of stone blocks laid as headers. This system of construction is particularly well illustrated at sites such as Vppenna, Laribus and Thagura, where part of the wall has collapsed (Pl. XIIIa-b; XXXIb; LXIXa).

The de Re Strategica recommends that curtain walls be built at least five cubits (2.36 m.) thick and twenty cubits (9.45 m.) high (*14). Analysis of the figures obtained from thirty-six curtain walls at different sites, or from different phases of fortification at the same site, which showed a variation less than 0.20 m., gives a range of 1.40-2.60 m. (average, 2.03 m.) for forts and of 1.40-2.50 m. (average, 2.02 m.) for larger enceintes. It may safely be concluded that there is no appreciable difference in the wall-thicknesses of forts and town walls/fortresses. Some minor variation in the figures can probably be accounted for by the lack of any consistent sampling procedure, an

IV.2.

inevitable consequence when different sites are surveyed by different people at different periods of time. Another problem is that the same wall sometimes varies in thickness from bottom to top. Byzantine walls usually have an offset foundation. At Lepcis Magna, for example, the walls are 1.90 m. thick and rest on a foundation 2.20 m. thick, while at Sabratha the wall is 2.20 m. and the foundation 2.60 m. However, although the sample of thirty-six is relatively small, some tentative conclusions seem to be justifiable, as the following analysis shows.

Table 1 illustrates the distribution of the figures for wall-thickness rounded up or down to the nearest 0.10 m. It may be seen that the highest scores fall at 1.90, 2.20 and 2.50 m., while a minor fourth peak occurs at 1.60 m. These peaks correspond approximately to 5, 6, 7 and 8 Byzantine feet of 0.315 m. (*15). The correlation of the figures with Byzantine cubits (0.47 m.) is minimal, apart from 1.90 m., and there does not appear to be any correlation at all with Roman feet (0.298 m.) or cubits (0.509 m.). If it may be inferred therefore, that the walls were originally laid out in Byzantine feet, and that minor deviations are due to the factors mentioned above, Table 2, in which the figures are rounded off to the nearest Byzantine foot, ought to give an indication of the modules in use. The result suggests that 6 feet, or four cubits, was the preferred module, accounting for one third of the sample, which ranges from 4 to 8 feet.

IV.2.

TABLE 1.

Wall thickness (metres)	Frequency	Wall thickness (metres)	Frequency
1.3	0	2.0	4
1.4	2	2.1	3
1.5	1	2.2	5
1.6	3	2.3	0
1.7	2	2.4	2
1.8	3	2.5	5
1.9	5	2.6	1
		2.7	0

IV. Table 1. Frequency distribution of the thicknesses of curtain walls, measured to the nearest 0.10 m.

TABLE 2.

Byzantine Feet	Metric equivalent	Frequency
3	0.945	0
4	1.260	1
5	1.575	5
6	1.890	13
7	2.205	9
8	2.520	8
9	2.835	0

IV. Table 2. Frequency distribution of the thickness of curtain walls, measured to the nearest Byzantine foot (0.315 m.).

Tower walls are usually thinner than curtain walls, but at the few places where this rule is reversed (eg. Tubernuc, Diana) there seem to be no grounds for accepting Diehl's argument that the date should be later than the sixth century (*16). The fort at Tubernuc, for example, is well dated to the reign of Tiberius II Constantine, and Diana may be Justinianic.

IV.2.

Since the facing blocks usually consist of spolia, the height of the courses is liable to vary even within the same stretch of walling, depending on whatever happened to be available to the builders. Larger stones tend to be concentrated at the base of the wall, smaller ones higher up. This evidently made for greater solidity and ease of construction. It was, besides, in line with accepted military practice, for the de Re Strategica advises that the lower seven cubits (3.31 m.) be constructed with large blocks of stone employed as headers (*17).

At a number of sites, there is evidence that the walls were built in sections of between 20 and 30 m. in length (eg. Sitifis, Ammaedara, Hippo Regius). At the point where two sections meet there is always an irregular vertical division in the masonry (Pl.XXIXb). The same feature is also found in late Roman defences and may be explained by the method of construction used in military buildings, with separate squads of men assigned to the various sectors of the enceinte (*18). Where it occurs in town walls (eg. Ammaedara), it suggests the work of the army or of paid, volunteer or impressed labour under military direction. In some forts (eg. Tignica, Thamugadi), the towers are not bonded securely with the adjacent curtain wall; this may be due to the same practice of building by sectors, or it could have been intended to allow for the differential rates of settling of the towers' and curtain's foundations (*19).

The mortar used for the construction of sixth-century African fortifications is usually white or creamy in colour. The Theodosian wall at Carthage is characterized by a 'core of grey charcoal-flecked mortar rubble' (*20); large flecks of charcoal can also be seen in the friable sandy mortar used at Vppenna and at Tubernuc. At Lepcis Magna, a high

IV.2.

lime content was obtained by using crushed sea-shells, derived from the waste heaps of a purple dye factory; shelly mortar has also been noted in a structure at Carthage which may have formed part of the walls (*21). At Henchir Sguidan (Anastasiana), quantities of broken coarse pottery were used as aggregate, recalling the mortar of the Long Wall in Thrace and the Justinianic fort at Isthmia (*22); the practice of adding broken tile or pottery to mortar was influenced by a desire to increase the hydraulic properties of the lime and thereby add strength to the structure (*23).

Although the construction-technique of Byzantine fortifications in Africa is remarkably consistent, variations do occur. At Lepcis Magna and Sabratha, for example, the walls have no rubble core and are built throughout of large reused blocks of stone, bonded with mortar. In cases where Roman buildings were incorporated into a sixth-century fortification, it was necessary merely to construct an outer cladding of stone blocks and bind it to the earlier wall with an infilling of rubble and mortar (eg. Mactaris, Thugga; also Mopth... and Aggar, whose identification as official sixth-century forts is more difficult to substantiate). Even in these examples, however, the mortar and rubble were laid pari passu with the construction of the outer facing, and there is no evidence to suggest that the mortar was tipped in after both facings had been completed (*24). Neither does it appear to have been normal practice to dispense with mortar altogether although this may be the impression gained when the poor quality of the mortar has resulted in the facing falling away to expose a mass of rubble behind (eg. Thamugadi E wall, Tignica N wall)(*25). Dry-stone construction was normal in Hellenistic fortifications (*26), but it is difficult to

IV.2.

see how the relatively high and narrow walls of the sixth century could ever have stood up without some kind of mortar to bind them. The example of Anastasius's walls at Dara, which were built in exceptional circumstances without mortar, is the exception that proves the rule; they did fall down, and had to be rebuilt by Justinian (*27).

Some other types of masonry which Diehl took to be original sixth-century work appear more likely to represent phases of rebuilding, in some cases possibly in the Muslim period (*28). It has already been noted how in Byzantine walls larger blocks of stone tend to be concentrated at the base of the wall. In Africa, however, in the upper part of many walls, the masonry degenerates into opus incertum or into a cellular technique resembling opus africanum, in which rows of vertically arranged blocks alternating with bands of similar blocks laid horizontally form a matrix of square compartments filled with smaller irregular material. The latter technique of construction can be seen employed in Roman buildings in Africa, such as the olive-farms at Sidi Melliti (*29) and Bir Sgaoun (*30); in these examples, however, as in numerous others in Syria, it seems that the orthostats formed open porticos, one above the other (*31). Diehl notes the existence at Agbia, Thubursicu Bure, Tignica and Tipasa (Tifech) of this wall technique, and suggests that it is a distinguishing feature of fortifications built during the reign of Justin II (*32). A surviving stretch of the south wall at Thubursicu Bure, however, shows very clearly that here this technique of walling was employed to repair a breach in the curtain wall (*33). Nor is it certain at the other sites mentioned whether such masonry belongs to the original construction or whether it represents a later phase of rebuilding. It does not seem possible therefore to use it as

IV.2.

a safe chronological indicator. Various types of orthostatic masonry can be seen in Muslim buildings in Africa (*34), but they are not usually as massively built as the Roman, or pre-Roman, examples (*35). The masonry of this type at Agbia, Thubursicu Bure and Tipasa may therefore possibly date from no later than the seventh century. Reconstruction of the upper sections of Byzantine walls using irregularly shaped small stones is probably in every case post-sixth-century, and where mortar is lacking it is almost certain to be Muslim.

Brick is used occasionally as a secondary material for specific purposes, such as for the vaults inside the towers at Thamugadi (dome) and Laribus (groin-vault), and for the arches that carry the rampart walk at Madauros (*36). At Limisa, brick is found amongst the smaller material packing the spaces between the orthostats which form the crenellations. Bricks are also found at Thamugadi in parts of the bath complex and chapel that were built inside the fort.

Evidence for a more general use of brick in the construction of fortifications in Byzantine Africa is more difficult to attest. In areas where building-stone and wood or combustible material were unobtainable, as was the case in the area around the fossatum south of the Aurès, Roman forts of the fourth century were sometimes built of mud brick (toub); one example is the fort at Bourada, built under Constantine I (*37). It is possible that the brick-built forts at Thabudeos and Midili were reoccupied by Byzantine forces in the sixth century. At Thabudeos, the bricks had been fired and they were smaller on average than those at Bourada (see below). The fact that the thickness of the mortar at Thabudeos was in some places greater than the height of the bricks could perhaps suggest a Byzantine refurbishment (*38). At Ksar

IV.2.

Graouch, however, the brickwork of the fort is more typically Byzantine in character, although confirmation of the date is still lacking. Here the sun-dried bricks are made of gypsum-bearing Triassic marl. One in ten of them bears an incised control mark, usually a cross, but in some cases something resembling an anchor. The brickwork of the fort is built on top of a socle of stone ashlar masonry, which is 1.70 m. thick and stands to between 2.0 and 3.0 m. above the modern ground surface. In the present state of knowledge, Ksar Graouch appears exceptional in Byzantine Africa, although the system of brick construction on a stone foundation is common elsewhere in the Byzantine world (*39). It should be remembered, however, that comparatively little archaeological work has been done in the region south of the Aurès and Nementcha mountains, where one might expect the more commonly attested Byzantine African building techniques to have been modified to conform with local conditions (*40). For this reason the comparative data that are available for brick sizes are extremely limited, and in view of the variations that occur in brick size even at the same site, it seems unlikely that recording the sizes of bricks would be of much value for dating purposes unless it were to be undertaken methodically with the same sampling procedures applied at each site. For what it is worth, however, Table 3 sets out the different sizes of brick recorded by different researchers from four African sites (dimensions are given in cm.).

IV.2.

TABLE 3.

Site	Source	Height	x	Width	x	Length	Date
Bourada	Guey 1939, 198.	9.5/10 av. "		32/36 av.33		46/53 av,49.5	Constantine I
THABVDEOS	Baradez 1949, 287.	8/10 (10)		28 40		38 40	?
Ksar Graouch	Privé 1895, 130-131.	15		30		48	6c.
	Cintas 1954, 204.	10 20		? ?		50 60	
BADIAS	de Torcy 1910	6		40		40	?

IV. Table 3. Comparison of brick sizes from different forts.

In the public buildings of the Byzantine empire of the fifth and sixth centuries, two main types of building construction may be distinguished, each characterised by a different geographical distribution. The first, comprising opus mixtum and other similar types of concrete masonry is found in the Balkan region of south of the Danube, Constantinople itself and parts of western Asia Minor (*41). The second, construction in large ashlar masonry, was employed in buildings in the lower Danube region, Thrace, southern Greece, the Aegean coastline, Syria, Egypt and Cyrenaica (*42). This distinction applies to all types of public building, including churches and fortifications, and to some private buildings as well (*43). Whereas the origins of the former building technique are to be found in the northern and western provinces of the Roman Empire (*44), the latter was more characteristic of the Hellenistic sphere of influence (*45).

The ashlar masonry of Byzantine fortifications in Africa belongs firmly to the latter Hellenistic tradition, but, following the normal practice in Byzantine emplecton (i.e. header-and-stretcher) masonry of

IV.2.

this period, it differs significantly from earlier Hellenistic practice in employing concrete instead of earth and stones as its core (*46). The advantage of concrete was that, by reducing the outward thrust of the core material and by bonding it solidly to the facing, it enabled walls to be built relatively higher and narrower than had been possible in dry-stone construction, when the only practicable method of giving the wall greater cohesion was to insert through-stones, wooden tie-beams, or metal cramps (*47). Height was demanded by the tactics of the day to increase the range of the defenders' artillery, while the lack of stone-throwing engines on the part of the 'barbarians' of the sixth century, as well as the extra precautions taken to ensure that siege engines of any kind could not approach the curtain wall (see below, section 3), allowed Byzantine architects to make economies in the thickness of the walls, undeterred by the possible consequences on their ability to withstand bombardment (*48).

Although a number of pre-Roman walls built in the Hellenistic manner with large blocks of stone are attested in North Africa (*49), it is not possible to see any direct connection between them and the walls of the sixth century A.D. in the way that one can, for example at Apollonia in Cyrenaica, where the Hellenistic fortifications were still standing in the sixth and seventh centuries to be refortified by the Byzantine garrison (*50). Some of the earlier types of gsur in Tripolitania, dated by Goodchild to the early third century A.D., are faced with large stone blocks (*51), and the same is true of some of the larger fourth-century forts of the Roman limes, such as Benia bel Recheb and Benia Guedah Ceder (*52). At Tolga, a late Roman fort of this type was mistakenly identified as Byzantine because of the superficial

IV.2.

resemblance of its masonry to that of Byzantine forts (*53). The usual type of masonry found in the fortifications of the first three centuries A.D. in Africa, however, is the rubble-and-concrete masonry typical of the western provinces. Such masonry occurs in the second-century walls at Iol-Caesarea (Cherchel)(*54) and at Iomnium (Tigzirt)(*55). At Thaenae, it is bonded with string courses of brick (*56). Larger ashlar masonry was reserved for important features, such as the gateways of the Severan forts of Gheria el-Garbia and Bu-Ngem (*57) and of the second-century walls at Iol-Caesarea (*58).

Closer analogies for the type of emplecton masonry bonded with concrete found in Byzantine work in Africa are to be seen, however, in two town walls, built at around the end of the fourth century and circa 425 respectively. The first, at Sitifis, is 3.60 m. thick and faced on the outside with well-cut rusticated stone blocks, laid in regular courses of between 46 cm. and 60 cm. in height. Behind the facing was a mass of earth and rubble, held in position by a series of compartment walls built across the line of the rampart and spaced 1.20 m. apart (*59). At Carthage, the Theodosian wall of 425 has been found to back on to earlier buildings in the areas where it has been excavated, and it too was faced only on the outside with (in this case reused) blocks of stone. The wall was about 3.60 m. thick, and the core consisted of rubble and concrete consolidated by cross-walls as at Sitifis (*60). Compartmentation of the rubble fill of dry-stone walls is a common feature of Hellenistic fortifications (*61). But if the Theodosian walls of Carthage are to be seen as representing an antecedent of the type of construction employed in fortifications of the sixth century, the development of the masonry technique is unlikely to have been a

IV.2-3

local one in view of the Vandal interregnum, which put a stop to the construction of fortifications in the region for almost a century. On the other hand, very close parallels for the large ashlar masonry of Byzantine Africa may be seen in the Justinianic fortress at Isthmia and in the wall across the isthmus of Corinth, to cite but two examples (*62). While the masonry technique may therefore be considered an import, however, there can equally be little doubt that the availability of a large quantity of cut stone from earlier buildings would have had a considerable influence on the choice of that particular building technique. Where stone was not available, or was available only at the expense of more time and effort than the builders were prepared to allow, other techniques, such as brick, may also have been used.

3. The layout of fortifications.

The layout of fortifications, that is to say the formal arrangement of towers, gates and curtains (see below, Sections 4-6), was conditioned by two variable factors: the size of the area to be enclosed, which was in turn dependent on the size of the garrison and/or of the civilian population to be housed within it, and the nature of the terrain. The de Re Strategica emphasizes that when a town lying in open flat country is to be fortified, a greater degree of care needs to be exercised in designing and building the walls than is necessary when man-made defences are required merely to enhance those, such as rivers or escarpments, provided by nature (*1). In practice, and as might be expected, fortifications built to make the best use of natural features or of existing buildings, which were often incorporated into sixth-century fortifications, tend to have an irregular shape, while those built on

IV.3.

an open site are laid out according to what must have been a 'text-book' pattern, with a rectangular plan and with projecting towers at the corners and, on larger enceintes, at intervals along the sides (*2).

Three categories of fortification may be distinguished in Byzantine Africa on the basis of their size and layout. The uses to which fortifications were put have been discussed already in Chapter III, and it therefore seems unnecessary to complicate the formal typology by further subdivision on the basis of function, which in any case is often difficult to determine (*3). The three types of construction are: (i) towers; (ii) fortlets and forts, whose enclosed area may vary from 0.05 to 1.75 ha.; (iii) fortresses, citadels and town walls, enclosing areas of about 1.80 ha. upwards (*4).

Towers (Turres, burgi).

The smallest defensive structures built in sixth-century Africa were towers, ranging from 5 to around 25 m. square. Only one example of a free-standing tower with a small ground plan of 4.90 x 5.00 m., which can be dated with reasonable certainty to the sixth century, survives today. This lies at Laribus, inside the Justinianic enceinte, and stands to a height of 13 m. Although its relationship with other buildings in the area is uncertain, it seems unlikely that it was intended for habitation in the manner of many of the isolated towers built in Syria in the late fifth and sixth centuries (*5).

The commoner type of tower, however, was similar in plan to the gsur or ksour (*6) of the limes Tripolitanus and had like them a military, domestic or military-cum-domestic function. These Tripolitanian structures are usually square in plan, with rooms set around a central court-

IV.3.

yard or light-well and the entrance in the middle of one side. They had at least two storeys. The rooms on the lower floor often include stables, provided with stone mangers, and the tower is usually equipped with silos for the storage of grain and with a well or cistern. Two typical examples are Gasr Duib, which was rebuilt by a tribune on behalf of the praepositus limitum and the governor of Numidia in 244/246 (*7); and a turris, 30 m. square, built by M. Manilius Ingenuus and his family at Henchir el-Gueciret, probably in the late third century (*8). Many hundreds of towers of this sort, datable to between the third and seventh centuries, and with occupation continuing in some cases well into the Muslim period, have been noted all over North Africa. They have survived in particularly large numbers, however, in Tripolitania (*9) and in the area around Theueste (*10), but are also common in southern Byzacium (*11) and in the zone to the north of the Aurès mountains (*12). Except in the area of the limes Tripolitanus, over which Byzantine control in the sixth century was tenuous, study of buildings of this kind has been hampered by the habit of researchers in the past, including the compilers of the Atlas archéologique de la Tunisie (1/50,000 series), of indiscriminately referring to almost any solidly built late Roman structure as 'fortin byzantin'. In practice, however, where inscriptions are absent, it is possible to date them and their phases of occupation only by scientific excavation or, if that is not possible, by a careful study of the masonry and of the pottery or coins recovered in surface collection. Outside Libya this has rarely been achieved (*13).

Only three towers can be dated by inscriptions to the sixth century. These lie at Casae (el-Madher), where a tower (11.00 x 9.40 m.; walls 1.40 m. thick) was built by the deacon Argentius; at Masticana

IV.3.

(Hr. Bou Sebaâ), where the bishop of Theueste, Faustinus, constructed a munitio, 14.50 m. square, some 30 km. south of his city; and at Ain el-Ksar, where the local citizenry built a tower, 18 m. square, between A.D. 578 and 582. Although nothing is known of the internal layout of these fortifications, it seems possible that the latter two at least were intended to house detachments of troops forming part of the numeri that were entrusted with the duty of patrolling the area around the town in which they were stationed (*14).

At three other sites, Ammaedara, Diana Veteranorum and Mactaris, there also exist towers whose function appears to have been specifically military, since they are sited in direct visual contact with larger official fortifications of the sixth century. The fact that all three were built around Roman monumental arches may be coincidental, but might equally well argue for official rather than private initiative in their construction. The tower at Diana was excavated during the 1930s. Although the date of its foundation was not determined, save that it was evidently later than the arch of Macrinus against which it had been built, some of the pottery recovered demonstrated that it had been occupied well into the post-Byzantine period. It measures 20.50 x 16.84 m. and contains a wide central corridor (3.40 x 16.25 m.) from which there opened a series of rooms and a wooden staircase to the upper floor(s); it also had a well and a silo. At Mactaris the plan is somewhat similar, with four rooms opening off a central corridor; the tower was built against one face of a triumphal arch situated at the entrance to the forum. The layout at Ammaedara is analagous, although here the tower encloses both sides of the arch of Septimius Severus, and there appears to have been an outer enceinte of some kind.

IV.3.

If these three examples, and two of the three dated towers already mentioned, may be held to have had an official military function in the sixth century, the same cannot have been true of the majority of towers that were either built or occupied in the sixth century. At Thubursicu Numidiarum, where the sixth-century defences included a small official fortlet and a fortified church, the tower known as Ksar el-Kebir has more of a domestic character. It measures 12.05 x 13.80 m. and its walls, 1.50 m. thick, are built of large reused blocks of stone. A wooden door at ground level on the east side, set at the inner end of an entrance passage, gave access to a central courtyard surrounded by eight rectangular rooms. Beneath the courtyard is a vaulted chamber of equal dimensions to it, which communicates with another beneath the southern part of the ksar; this may have been either a cistern or a basement to which access was provided by a rectangular trap-door in the courtyard. The building probably had at least two storeys, apart from the basement. The date of its construction is of course not known, but it seems likely that it would have been occupied at the same period that the fort and the church were in use (*15).

An attempt to trace the development of towers of this kind during the sixth century must begin by considering the large number of similar towers erected in Tripolitania from the third century onwards. D. J. Smith, discussing the towers of Gasr Duib and Gasr Uâmes, which ^his own _^examination of the masonry suggested to have been built at the beginning rather than the middle of the third century (the inscription from the former belonging in his opinion to a phase of rebuilding), argued that the type of building that they represented had evolved from other Roman military structures of which the mile-castles of Hadrian's wall and the

IV.3.

signal stations of the Northumberland and Yorkshire coasts represented comparable examples (*16). Goodchild and Ward-Perkins had already argued that the fortified farms that were built by the native soldier farmers (gentiles) (*17) in the frontier regions of Tripolitania from the third century onwards, developed from gsur such as Gasr Duib, which had at first a purely military function (*18). However, when one considers the development of such buildings in the fourth to sixth centuries in the parts of Roman Africa that were far removed from the areas of former limitanean or gentile settlement, a somewhat different pattern of development may be discerned, with houses taking on the characteristics of fortified gsur rather than the other way round.

There is a tendency in the fourth century and after, in Africa and elsewhere (*19), for certain types of house-plan, in nucleated and dispersed settlements, to become constricted in size for reasons that were not due to lack of building space, since wide areas often separate such buildings from one another. One recently excavated example is the so-called 'maison du rempart' at Sitifis. In this building are to be found the usual features of a Roman house compressed into a space of 13.80/13.90 x 12.30 m. However, the building was not fortified, in the sense that its outer walls were no different in thickness or construction from the inner dividing walls, and it appears to have been contemporary with the late fourth-century rampart that encloses the part of the town in which it stood (*20). A direct relationship between houses of this type and defensive buildings like Ksar el-Kebir can be demonstrated at Sufetula (Sbeitla), where two ksour of the latter type, excavated in 1948 (*21), have been shown to have been built around earlier houses similar to the 'maison du rempart' at Sitifis. The southern of the

IV.3.

two tower-houses at Sufetula is built of large reused blocks of stone, measures 20 x 24 m. overall and has an outer wall 2.00 m. thick. It encloses a smaller and earlier structure, measuring 10 x 12 m., which is built in more irregular materials on a foundation of large stone blocks. This structure had at least two floors, and probably three, the lower one being a basement equipped with stables and a well, while the upper one, which was evidently the living area, stood slightly higher than ground level. In the northern tower-house, whose overall dimensions were 22 x 22 m., an earlier house, 13.50 m. square, was also identified, enclosed by the later structure. In this tower, however, the basement, which also included stables, must have gone out of use and have been filled in by the time of the last phase of the building, when a central portico comprising twelve columns was built on the floor above it. Fragments of marble from an opus sectile pavement at this level testify to the relative luxury of the final phase of occupation (*22).

Towers have been too little studied to permit general conclusions to be made about the effects of date or function upon typology. In any case, even in Tripolitania, where gsur have been more closely studied, it has proved impossible to relate changes in layout to any chronological development (*23), and the functional distinctions between towers designed to house troops, such as Gasr Duib and Gasr Uâmes, and those built for soldier-farmers and their families are not particularly apparent in the plans either. Since such structures were already being built in the third century by the provincial Africans and by gentiles, who during the fifth century ceased to be under Roman control, there is little reason to expect to find any specifically Byzantine features in their design in the sixth century. The most that they have in common

IV.3.

with other Byzantine fortifications is their construction in large ashlar blocks, a type of masonry that is found only in the very earliest gsur in Tripolitania. A case could be made on a priori grounds for the towers built with a purely military function having had their plans determined by the Byzantine military practice of the day; but whether the corridor plan of the towers at Diana and Mactaris was determined by this consideration rather than by the problem common to both of building a tower against one face of an existing triumphal arch can only be resolved after the accumulation of a larger body of material from Africa and elsewhere.

Forts (castra, castella).

The term fort is given to fortified enclosures, built to house a garrison, that were larger than towers and enclosed an area less than about 1.75 ha. Above that size, fortress, citadel or fortified town is a more appropriate description. Except where nature or earlier man-made features imposed a different plan, the layout of sixth-century forts was rectangular, and their walls were usually provided with projecting rectangular towers (*24).

The smallest forts of around 0.05 ha. might possess only a single tower. At Thubursicu Bure, the fort of 0.045 ha. built around the baths building in the forum nouum had a single projecting gate-tower in the centre of its south side. Some larger fortified structures at Guelaâ Bou Atfan, Vreu and Vzappa also had a single tower or bastion in the middle of one of their longer sides, but it is uncertain whether any of these were official sixth-century forts. Indeed, excavation has shown one such structure, at Henchir el-Faouar, where the projecting tower is also a gate-tower, to be of Muslim date (*25). The Justinianic

IV.3.

fort at Thugga, however, despite its more irregular layout, seems to have been based on the same principle, with a rectangular tower projecting from the centre of its north and south walls only (*26). Two other forts whose dates are uncertain, Casae and Sila, had towers in the middle of their four sides rather than at the corners.

The more usual arrangement, however, was for the towers to be placed at the corners of the fort. Forts having only four projecting towers, one at each corner, can be traced back to Hellenistic examples, such as Theangela in Caria (*27). Such buildings may be referred to as τετραπύργια or quadriburgia (*28). They are unknown in Roman imperial architecture before the reign of Diocletian (*29). Roman forts before the third century had usually been rectangular in plan, with rounded corners and with internal corner- and interval-turrets. With the increasing use made of artillery in a defensive rather than an attacking rôle in the later Roman period (*30), external projecting bastions came to be more commonly used (*31). Late Roman quadriburgia could have rectangular or circular corner-towers. An example of the former type is en-Boqeq, in Palestine, an early fourth-century fort of 0.03 ha. (*32); and an example of the latter lies at Castra Martis (Kula) on the middle Danube frontier, built towards the end of the third century and enclosing 0.16 ha. (*33). Both of these forts were reoccupied militarily under Justinian (*34). Two de nouo Justinianic quadriburgia have been investigated at al-Habbāt in northern Syria (*35) and at Saldum Gradač on the Danube (*36); of these, the first had rectangular corner-towers and the latter circular ones.

In Africa, such forts were built during the sixth century at Aïn Bou Driès, Limisa, Sufes, Tubernuc, Agbia, Vppenna, Zarai, Diana and Thugga

IV.3.

Terebentina. The size of these forts varies from 0.06 ha. (Vppenna) to 0.29 ha. (Diana) (*37). Where they have been identified, the main gateways are of the plain or buttressed type (see below, Section 6), and are often sited in the centre of one of the curtains; posterns, where they exist at all, are usually flanked closely by one of the corner-towers.

A similar plan was also adopted for small defended enclosures built inside and against the town walls that Solomon constructed at Cululis (c. 0.05 ha.), Bagai (0.07 ha.) and Laribus (0.10 ha.). The exact layout of the fortlet at Laribus is uncertain (*38), but at Bagai and probably also at Cululis, which appears to have been identical with it, the fortlet had two small turrets projecting from the three walls which faced into the town, and two larger towers, similar to the other towers of the town wall, defending the fourth side, which was formed by the town wall itself. At Bagai, the fortlet was surrounded by a somewhat larger outer enceinte (0.44 ha.), which had interval- as well as corner-turrets (*39). Doubtless these small forts had gateways affording their garrisons access to the areas inside and outside the town walls (*40).

Larger forts obviously had need of a greater number of towers. However, the existence of a fort-type with an interval tower on only one side, and that not always the longest, making five towers in all, suggests that the length of the curtains was not the only factor in deciding how many towers a fort should have. Five-tower forts may have been so designed that increased fire power might be concentrated on a certain quarter; or their plan may have been related in some way to their internal layout, about which nothing is known in any of the

IV.3.

examples identified. At Tignica, which has a somewhat irregular shape, the fifth tower housed one of the two entrances to the fort (*41); but at the other three sites, Gadiaufala, Gastal and Ksar Graouch, the position of the main gate is unknown. The size-range of five-tower forts is 0.16-0.38 ha. In size and design, they therefore represent a transitional type between forts with four and eight towers respectively.

Forts over about 0.24/0.29 ha. have an interval-tower in the centre of each side in addition to their corner towers, making eight in all. The size of such forts varies from 0.24 ha. (Madauros I, Anastasiana) to 1.55 ha. (Calama I) (*42). Examples in Africa include Madauros I, Anastasiana, Tubunae, Thamugadi, Calama I, Ksar Belezma and Thamallula. The plan is repeated in another Justinianic fort at Eboda (0.25 ha.) in the Negev (*43). At Bagai, the outer of the two smaller enceintes within the town defences also has this plan, as has already been mentioned, although its fourth side, which is formed by the town wall, lacks the regular arrangement of flanking towers. The usual type of entrance associated with such forts is a gate-tower set in the centre of one of the sides; this is the arrangement found at all the sites mentioned above (including Eboda), except for Calama I, which was never completed.

At Sitifis, a fort of comparable size to those at Calama and Ksar Belezma was provided with eleven towers, possibly on account of its somewhat elongated shape.

Forts with a trapezoidal plan and with angled, circular or rectangular towers or bastions at the corners and a gateway flanked by a pair of towers in the centre of the longest side, appear almost certainly to be late Roman in date, although two of them, Thabudeos

IV.3.

(0.71 ha.) and Midili (0.65 ha.), were probably reoccupied in the sixth century. The 'type-site' for forts of this kind is Altrip (Alta Ripa) on the Rhine, dated to the reign of Valentinian I (*44). The plan appears to be repeated at Thurnburga (0.50 ha.), which therefore also seems likely to be late Roman and not Byzantine in date as earlier writers supposed.

Little purpose would be served by a detailed discussion of the plans of irregular forts. It may be noted, however, that as far as possible their layout conformed to a regular plan. At Chusira, for example, the fort (0.28 ha.) was laid out like others of comparable size with a rectangular plan on the eight-tower model, except that two of the sides were replaced by an irregular wall following the edge of the cliff top on which it was built. At the other extreme, the fort at Thagura, occupying the top of a rocky eminence, had its plan dictated by the topography of the site, with the towers tending to be concentrated on the exposed quarters. At a number of sites, the plan was dictated by the shape of the underlying Roman buildings, whose walls the Byzantine engineers used as foundations. At Madauros II, for example, the hemicycle of the theatre was used as one of the fort's walls; at Thugga, the fort derived its plan from the underlying forum; and at Mactaris, the walls of the fort followed the outer walls of a massive Roman bath complex. In some places, as for example at Mactaris and Musti, there are few or no flanking towers; presumably their function as platforms for artillery could have been performed by existing structures inside the enceinte and flanking fire for the walls could have been provided by giving the wall an indented trace (see below). The existence of barrack-buildings at both of these forts should warn one against using regularity of layout as the sole criterion in determining

IV.3.

whether a fort is an official sixth-century one or not.

Fortresses, citadels and town walls.

The difficulty of distinguishing the different possible functions of fortified enclosures larger than around 1.75 ha. has already been discussed. At this point it may simply be stated that such enceintes would probably have accommodated troops as well as a civilian population, but that the status of the occupants would have had little influence on the design of the defences, even though it would have affected the layout of buildings inside them, about which, however, little is known.

Like the forts, larger enceintes also show a tendency to be rectangular or sub-rectangular in plan. There are no examples of oval plans, like some of those built in Gaul in the late third century (*45), but this may have been due partly to the natural topography of the sites concerned. At Theueste and Thelepte, where strictly rectilinear planning is found, the plan was almost certainly influenced by a pre-existing Roman street grid, which it evidently made sense to enclose by a rectangular enceinte, even though a large part of the earlier town was left outside. The Theodosian walls of Carthage and the Justinianic walls at Sabratha also followed the edges of the Roman insulae for part of their course, as excavations have shown. Irregularities in plan were caused by the same factors that caused them in the layout of forts, and the larger the enceinte the more chance there was that it would be irregular in shape. Sometimes an irregularity would be caused by the desire to enclose some man-made feature, such as the massive bath complex at Calama II. At Lepcis Magna, the harbour had to be enclosed at all costs, hence the curving line of the wall on the east side of the Wadi Lebda. Even where the town wall described an irregular

IV.3.

shape, however, curtain walls between towers were almost always straight and corners were defended with projecting towers.

In order to determine the maximum distances separating towers from their neighbours, one has first to be sure that all of them survive at whatever site is being studied. The figures obtained from three sites where this is certain may be taken as representative. At Ammaedara, apart from the south wall which is over 100 m. in length, but defended by a river-bed, the curtains between towers vary from 55 to 70 m. in length, averaging out at 65 m. At Tipasa (Tifech), the variation is from 40 to 50 m. and at Theueste, if one discounts the additional Tower i, it is 55 to 95 m., averaging at about 75 m. The significance of the intervals between towers will become more apparent in the following section.

Where the construction of towers seemed undesirable or impracticable, other techniques for flanking the curtain wall were used. At Tigisi and Tipasa (Tifech), the walls are in places built with an indented trace (à crémaillère), in a fashion commonly found in Hellenistic fortification (*46). The same technique was also used in fort walls at Musti, Tignica and Agbia. Another characteristic Hellenistic trace, built in zig-zag fashion, may have inspired the layout of the west wall at Sabratha (*47).

The gateways of larger enceintes tend to be either set in the centre of a stretch of curtain wall or flanked closely by a pair of towers. Their position is usually pre-determined by the existing road pattern, and at two sites, Thubursicu Bure and Theueste, Roman triumphal arches spanning the roads at the entrance to the town centres were incorporated into Byzantine fortified gateways(*48).

At some sites there is evidence for cross-walls (διατείχισματα)

IV.3-4.

enclosing a reduced area within the larger enceinte (*49). Except where these represent a fort, earlier than or contemporary with the main enceinte (eg. Sufes), such walls may relate to later phases of occupation when the population or garrison size had been reduced. One good example is Tipasa(Tifech), where the upper part of the fortress was separated from the remainder by a wall flanked by a single rounded or cutwater-shaped bastion; late Byzantine occupation of the site is attested by a lead seal of the patrician Gregory.

4. Walls and lines of defence.

Sixth-century Byzantine fortification systems were based, in theory at least, on a triple line of defence (*1). First, a masonry wall (τείχος, περίβελος), with projecting towers, enclosed the defended area. The de Re Strategica states that this should be at least 5 cubits (2.36m. wide and 20 cubits (9.45 m.) high (*2). The known examples, however, display no such uniformity (*3). While at Isthmia Justinian's wall was 2.30 m. thick (*4), the city of Sergiopolis (Rusafa) was enclosed by a wall 3.00 m. thick and 11.70 m. high (*5), and Lara by one 3.80 m. (12 ft.) wide and 18.90 m. (60 ft.) high (*6).

The inner curtain wall in sixth-century Byzantine fortifications could often be defended at two levels. At Rusafa, a gallery set within the thickness of the wall, 6.00 m. above ground level, gave access to a series of vaulted casemates, open on the inside and narrowing to a slit on the outside (*7). A similar arrangement has been suggested in a restoration of the walls at Serdica (Sofia) in their second phase, which is dated to the reign of Marcian I (450-455) or Leo I (457-474) (*8), and is also found in Maxentius's additions to the walls of Rome

IV.4.

(*9). Procopius describes the same system being used at Theodosianopolis, in Greater Armenia, at the time of Justinian (*10). The purpose of an arcaded form of wall-construction was not always, however, to provide a level of defensive fire below that of the rampart-walk. At Dara, for example, and on Justinian's wall which cut off the Gallipoli peninsula from the mainland, the wall-walk was supported on a colonnaded portico (στώδα), built against the inner face of the wall, by which means it was possible to double the width of the fighting platform without having to do likewise to the wall below (*11). The same system of internal arcading is found in Hellenistic fortifications, with or without embrasures in the outer wall (*12).

Before the wall ran two further lines of defence, a προτείχισμα, or outer wall, and directly in front of it a ditch (τάφος). Their purpose was two-fold: to protect the wall itself against direct assault by enemy battering rams and other siege-engines, and to provide an area outside the main fortification within which the rural or civilian population could congregate in times of danger (*13). The ditch fronting the προτείχισμα was to be at least 40 cubits (18.90 m.) broad, and deep enough to counter any attempt to mine the inner walls from the outside. It could also sometimes be filled with water. The spoil from the ditch was to be spread out between the wall and the προτείχισμα to form a level fighting platform (*14).

The development of such out-works is a feature of Byzantine fortifications of the fifth and sixth centuries, and derived from Hellenistic principles of defence, such as those laid down in the military treatise of Philon of Byzantium (*15). The system outlined in de Re Strategica receives its finest expression in the Theodosian walls of Constantinople

IV.4.

itself, built between 412 and 422 (*16). Here there is an inner wall, 4.80 m. thick and 11 m. high, fronted by rectangular or polygonal towers spaced at intervals of 50 to 70 m. The *προτείχισμα*, flanked by smaller rectangular towers, was 3.30 m. thick and 4.80 m. high, and was separated from the main wall by a level platform of earth 14.50 m. broad. Immediately in front of it came the ditch, 18 m. broad and 7 m. deep, which could be filled with water in cases of emergency by means of a system of dams and sluices.

It has often been assumed that the design of the walls of Constantinople marked a new departure in late Roman fortification, inspired by a revival of interest in Hellenistic concepts of defence, and that it was subsequently imitated in the provinces. Thus, in Bulgaria, for example, archaeologists have assigned fifth-century dates to the *προτειχίσματα* added to existing walls at Vojvoda Hisar, Stara Zagora and Sadovec, on the grounds that they were inspired from Constantinople (*17); and, in Syria, van Berchem has argued for a Justinianic date for the wall at Amida for the same reasons (*18). More recent work, however, tends to support the idea that the walls of Constantinople represented a culmination of theory and practice that had evolved in the provinces before the fifth century. The dating of the walls of Amida and Singara is put in the first half of the fourth century by Oates, who suggests that their defences were conceived in response to the special conditions obtaining on the eastern frontier at that time (*19); and a date of 376/378, prior to the invasion of the Balkans by the Huns, has been put forward for the addition of a *προτείχισμα* to the south wall of the quadriburgium at Castra Martis (Kula), in Illyricum (*20).

Byzantine curtain walls in Africa vary in thickness from 1.30 to

IV.4.

2.60 m. (average 2.02/2.03 m.) and stand to between 7/9 m. (Theueste, Sitifis) and 10 m. (Limisa) in height, measuring to the level of the wall-walk. In none of the surviving examples, however, is any provision made for defence at a level below the wall-top, and even where arrow-slits occur in the ground floors of towers, they invariably slope downwards on the inside and would therefore have been useless for firing from (*21). Instead, defence was concentrated on the rampart walk and, more especially, on the tower-tops, which were open and usually stood one storey higher than the curtain wall (cf. Section 5). Where the thickness of the wall permitted, as at Thamugadi and Thubursicu Bure, the wall-walk and parapet could be accommodated with no difficulty; elsewhere, however, it could either be corbelled out on the inside, as at Theueste, carried on wooden beams, the slots for which have been noted at Sitifis, or supported on blind arcading. The latter is attested at Ammaedara, Madauros, Theueste and Tignica, and was used, as at Dara, as an economy measure.

At Limisa, where the surviving crenellation appears to be mostly original, though restored in the 1960s, the merlons were 1.50 m. high and were formed by a pair of large orthostats retaining an infilling of smaller material; in some ways the technique resembles opus africanum (cf. Section 2). At Theueste, the merlons seen in the nineteenth century also stood 1.50 m. higher than the parapet which was 0.50 m. high. Nowhere else does crenellation survive. It is not possible, therefore, to tell whether the gamma-shaped type of merlon, designed so as to protect the left side of the defender, with which Belisarius strengthened the walls of Rome in 536/537, was also used in Africa (*22).

The evidence for outer defences in Byzantine fortifications in

IV.4.

Africa, whether a ditch or a προτείχισμα, is meagre. Their apparent absence may have been due to the Moors' inexperience in siege-craft (*23), which would have enabled the Byzantines to dispense with out-works designed to counter siege-engines, but may also be explained in part by the lack of excavation, which is often necessary to locate such features (*24). Belisarius's works at Carthage included repairing the masonry wall of Theodosius II, digging a ditch about it, which according to Procopius it did not have before, and placing stakes about the ditch (*25). It is not altogether certain whether the stakes were intended as a kind of προτείχισμα, a revetment for the ditch, a chevaux-de-frise in front of it or an obstacle within it. The last seems the more likely, however, since the use of pointed stakes for this purpose is described, for foucae, in the Strategicon of the emperor Maurice (*26).

Excavations at Carthage, carried out in 1975/76, have revealed evidence for two successive ditches lying outside the Theodosian wall on the southern side of the city. Neither has been totally excavated and the dating is tentative. The earlier ditch was separated from the wall by a berm of 2.50 m.; it was at least 10 m. wide and was excavated in 1976 to a depth of 2.0 m. Although Procopius states that Theodosius's wall had no ditch, the excavators suggest that this ditch was contemporary with the wall, which has been identified as Theodosian. The width of the later ditch is uncertain, but must have been at least 16.50 m., with a berm of 12.50 m.; it, too, has only been excavated to a depth of 2.00 m., and its inner profile makes an angle of 45° with the horizontal (*27). Excavations at Madauros, Lepcis Magna, Sabratha, Musti, Thamugadi and Thugga, however, have failed to find any trace of a ditch surrounding the sixth-century fortifications, and at Sitifis, although

IV.4.

a ditch was found running parallel to the west wall of the Byzantine fort, and separated from it by a distance of about 20 m., its date is almost certainly Muslim (*28). Outer walls of stone have been noted enclosing the forts at Zarai, Gadiaufala, Vppenna and Madauros I. At none of these, however, is the dating certain, and, in view of the later occupation that is attested in many forts, it is quite possible that they relate to settlements that grew up around the forts after the end of the sixth century.

The purpose of fortification in warfare is to give the defenders a tactical advantage in the event of their being attacked by the enemy. The disposition of walls, towers and out-works is therefore determined largely by the tactics and weapons in use at the time that they were constructed. In late Roman warfare, artillery once more played a prominent rôle in town and fort defences, just as it had in the Hellenistic world. Two types of artillery were in use in the sixth century: the ballista, a bolt-firing two-arm torsion catapult, and the onager, a one-arm stone-throwing engine (*29). Both of these weapons are described by Procopius in his account of the defence of Rome by Belisarius against the Goths under Vittigis in 537 (*30). Belisarius placed the ballistae on the tower-tops, in the manner recommended later by Maurice's Strategicon (*31), while he ranged the onagri along the rampart-walk. Richmond interprets these onagri as smaller than the more usual Roman type, which had to be placed on large resilient platforms (*32), and suggests that they were fixed in some way to the special merlons that Belisarius had constructed (*33). The rampart-walks of Byzantine defences in Africa, however, were much narrower than those at Rome in the sixth century (*34), and it seems unlikely that they could have

IV.4.

accommodated even the smallest type of artillery engine. The purpose of the onagri at Rome, however, was to destroy the Goths' siege-engines and towers (*35). The Moors, on the other hand, were known to have no such engines or expertise in siege-warfare; it may therefore be doubted whether onagri were ever employed in Byzantine Africa, except perhaps at Carthage where the walls were somewhat thicker (*36).

There is no direct evidence for the use of ballistae in Byzantine Africa, but since these machines were such an important ingredient of defensive tactics from the fourth century and since they were used primarily as an anti-personnel weapon (*37), it would be surprising if they had not existed. Certainly, the high towers found at all fortified sites were designed, like their Hellenistic prototypes, as artillery platforms, even if, as seems likely, the machines and the men to operate them were in short supply by this period (*38). The military purpose of towers was two-fold: first, their elevated height increased the effective range of ballistae, which, firing on level terrain at an angle of 45° , was about 365-455 m. (*39); secondly, they provided flanking fire for the adjacent towers, gates and curtain walls (*40). The second of these functions could usually be performed more effectively by archers, however, for the following reasons.

The design of ballistae was such that they could not be fired at an angle much below the horizontal without toppling over. The effect of this was to make it impossible for them to cover the ground lying immediately in front of the walls or towers on which they were mounted. A ballista-bolt fired horizontally with an initial velocity of 60 ms^{-1} at a height of 10 m. will only reach the ground, assuming the ground to be flat, at a distance of 86 m.; in the case of a bolt fired from a

IV.4.

tower-top, 14 m. above ground level, the distance would be 101 m. (*41). By mounting the ballistae in projecting towers or bastions and by firing obliquely along the face of the rampart, much of the dead ground could in theory be quite adequately covered, always assuming that the wall was sufficiently long and straight; but the defenders' tactical advantage of being able to engage the enemy first, up to about 450 m. from the walls, would be correspondingly reduced (*42). The fact that the ballistae of the sixth-century Byzantine army were mounted on the tower-tops, 14 m. or more above ground level, rather than in casemates some 6 to 8 m. above the ground, as in Roman defences of the second and third centuries (*43), indicates that range rather than flanking fire was considered to be the main asset of ballistae at this period. Flanking fire could have been provided more effectively by archers, whose field of fire was less restricted and whose effective range was as much as 140 m. (*44). Moreover, mounted archers constituted a major part of the sixth-century Byzantine army; thus the fire-power that a garrison could command would have been considerable (*45).

Consideration of out-works in relation to the fields and concentrations of fire that defenders would have been able to achieve in the area lying in front of the walls may help to explain why they appear to be so rare in Byzantine Africa. It may also suggest what the purpose of Belisarius's ditch at Carthage might have been. Some light may be shed on the latter question by drawing the analogy of Belisarius's fortification of Rome, which also included a ditch, deep enough to constitute an important part of the defences (*46). Richmond's analysis of the siege of 537 reaches the following conclusion regarding this ditch: 'These facts appear to establish beyond doubt the theory behind the

IV.4.

Belisarian method of defence. There was dead ground immediately beneath the wall; the Goths were to be prevented from using it by means of a large ditch; beyond the ditch they could be harassed by artillery- or arrow-fire, and the deadliest fire was concentrated just on the far side of the ditch' (*47). The ditch at Rome has yet to be located by excavation and its profile and distance from the walls are therefore unknown. Richmond's supposition that it was sited so as to protect the area of dead ground immediately in front of the walls may be seriously questioned, however, since it would appear that the ground immediately outside the ditch was also dead ground to the defenders' artillery, though not to their archers (*48). The height of the towers upon which Belisarius placed his ballistae was about 15.25 m. Richmond calculates (*49) the zone of dead ground to be 28.04 m. wide; in fact, allowing an initial velocity of 60 ms^{-1} , the distance should be 105.6 m. At such a range a concentration of archery-fire would be difficult, though not impossible, to achieve; moreover, Procopius's account makes it clear that the fire that was directed on the zone immediately in front of the ditch came not from ballistae, but from archers, including Belisarius himself, lining the rampart-walk. It was arrows, not ballista-bolts, which brought down the oxen dragging the Goths' siege towers, when they came to a halt at the edge of the ditch (*50); and, a little later, the Goths attacking the mausoleum of Hadrian could not be engaged by ballistae, 'for these engines do not send their missiles except straight out', although they were subjected to an ineffectual (on account of their shields) fire from archers (*51).

The sixth-century out-works excavated at other sites also suggest that the siting of ditches had little to do with ballistae. The ditch at Sergiopolis (Rusafa) is wide and shallow with an inner scarp,

IV.4.

presenting an ideal plane of fire, 21 to 36 m. in advance of the walls, for archers lining the upper rampart-walk; targets on the side of the scarp facing the walls could have been engaged up to within 6 m. of the wall by the archers manning the lower of the two chemins-de-ronde (*52). On the trans-Isthmian wall, the excavated out-works are somewhat different. They consist of a masonry προτείχισμα, 0.70 m. thick, which runs 6.90 m. in advance of the wall and is preceded by a roughly V-shaped ditch, about 6 m. wide and 3 m. deep, which is steeper on the outside than on the inside (*53). The primary function of the προτείχισμα and ditch, the outer edge of which is only 15 m. from the wall, was probably to prevent siege-engines and towers being brought up to the wall; it could also, however, have induced disarray in an attacking force, rendering it more vulnerable to sling- and arrow-fire from the wall-walk and towers. The towers on the trans-Isthmian wall are spaced only 40 m. apart (*54), so that the use of ballistae on the zone around the ditch would have been out of the question, except where it was possible to achieve some flanking fire (*55).

It would seem, therefore, that in most sixth-century Byzantine fortifications the barrage of defensive fire that could be brought to bear on an enemy engaged in crossing the out-works would have come from archers or slingers rather than from ballistae. It also seems likely that the spacing of the towers was based on the range of arrow-, rather than ballista-, shot. Vitruvius states that towers should be spaced no more than one bow-shot apart, so that an enemy attacking one tower could be subjected to fire from the two on either side of it (*56). The same point is illustrated at Constantina in Mesopotamia, where the towers of the earlier wall were spaced so widely apart that the enemy could approach unhindered down a corridor of dead ground between each

IV.4.

pair of towers. Justinian took the matter in hand by doubling the number of towers on the enceinte (*57). The spacing of towers in Byzantine fortifications in Africa 40-95 m. apart (*58), if rigorously applied, would have meant that no part of any enceinte would have been without flanking fire from at least two quarters. Stretches of wall that were not covered in that way were usually short (eg. Musti) or were protected by natural features such as cliffs or rivers (eg. Thagura, Tigisi).

In conclusion, it would appear that if ballistae were used in Byzantine Africa their purpose would have been to engage the enemy at ranges that were out of sling- or bow-shot. Since the Byzantine army already had tactical superiority both in the numbers of their archers and in the range of their bows, the added advantages of ballistae would probably have been minimal and their numbers in consequence few. Ditches were used in sixth-century fortifications principally to prevent siege-engines from being moved up to the walls, and also against mining. Since the Moors were inexperienced in siege-warfare (*59), out-works were probably unnecessary. Belisarius dug a ditch at Carthage partly because he was unaware of the Moors' military qualities, and partly because the enemy at that time was not the Moors but the Vandal army under Gelimer, which was still at large. The second function of ditches, to break up direct assaults of the enemy and open up his ranks to deadly arrow-fire from the walls, could probably have been dispensed with, since the Moors did not attack in formation and the walls themselves would have formed a perfectly adequate bulwark.

If the defences of Byzantine Africa appear to represent a scaling-down of the more elaborate defensive systems built around Constantinople itself and along the eastern frontier, the reason was partly perhaps the

IV.4-5:

lack of economic resources, but more particularly the poor technical ability of the enemy against whom they were erected.

5. Towers.

The majority of the towers that formed part of Byzantine fortifications in Africa are rectangular, though on occasion rectangular towers are found to be supplemented by others of different shape. Towers are always hollow, even at ground level, and in most cases appear to have stood well above the height of the adjacent curtain wall (*1). At Theueste, for example, the top floor of the towers is 14 m. above ground level, or 4-5 m. higher than the rampart-walk, while at Limisa they are 16 m. high, again 4 m. above the rampart-walk (*2). In a few cases, however, as at Thamugadi where the west wall of the fort itself attains a height of 15 m. above the ground-level measured from inside the fort, it is doubtful whether the difference in height between towers and curtain would have been so marked.

The dimensions of towers vary from about 5 x 5 m. (Limisa) to 7.80 x 8.40 m. (Bordj Hallal). Extra-large towers, such as the one that dominates the enceinte at Vaga Theodoriana (16 x 18 m.), probably had a special function, as, for example, did the tower at Zenobia, a city on the Euphrates fortified by Justinian, which contained the praetorium of the city garrison (*3). Occasionally, towers are found to have a double-square plan, with an inner cross-wall set at right-angles to the line of the curtain; such a tower exists at Tipasa (Tifech) and at Anastasiana (Hr. Sguidan) half of the lower floor of a tower of this kind is taken up by a gateway. It is possible that in earlier periods such cross-walls were intended to give extra support to artillery mounted

IV.5.

on the towers' upper floor (*4), but whether this is the explanation of the Byzantine African examples is uncertain.

The floors inside towers could be constructed in any one of a number of different ways. At Madauros, Thubursicu Bure and Tignica, there were wooden floors supported on cornice fragments taken from earlier buildings and set in the side walls of the tower. At Sitifis and Limisa, wooden floors were carried on stone corbels and beam-slots respectively. At Agbia, two barrel-vaults still survive in one of the towers, but they seem to be later insertions, replacing earlier floors of wood. At Vppenna, Tipasa (Tower c) and Lepcis Magna (Towers B6 and B3), however, the barrel-vaults are original features. At Thamugadi, two towers (d and k) still retain the remains of a brick dome at first-floor level, supported on stone corbelling; in one tower, either on account of collapse or because it was never finished, the central circular space is covered by a cruder stone-built cupola, which is out of proportion to the original work and appears to be a later, possibly Muslim, addition. At other sites, such as Thagura, Thugga (? insertion), Theueste and Laribus, the floors were formed by groin-vaults, carried on corner pilasters, which in one case (Thagura) did not continue down to the ground, but were corbelled out of the wall (Pl.). In one tower at Mileu, the pilasters are so massive and the walls of the tower so thin that the structure was in effect a quadrifrons with its arches blocks^{ed} up. At Bordj Hallal, the large tower already mentioned had its floors composed of four groin-vaults supported on a central column, and at Vaga, in spite of Turkish modifications, the system of vaulting in the large tower seems to have been the same.

When they stand to full height, or almost so, the towers can be

IV.5.

seen to have been of three, or in some cases four, storeys. The ground floor usually communicates with the interior of the enceinte through a narrow door, about 0.80 m. wide, opening into the tower, but sometimes, as at Thagura, by a wide archway.

The problem of providing entrance-passages to the rectangular corner-towers of rectangular-shaped enceintes was tackled in a number of different ways, and a typology for the various solutions can be worked out. The simplest system, and one that is commonly found, especially in forts, may be termed a lateral entrance-passage, left-hand or right-hand depending on which of the two walls the passage leads through when it is looked at from inside the enceinte (Fig. 5 a). When a lateral passage was used, one of the tower's walls was invariably laid out in line with one of the adjoining curtains. Such entrance-passages are also found in late Roman fortifications (*5). Diagonal entrance-passages (Fig. 5 b) are equally common. When the corner-tower was circular or polygonal, they were the only possible solution. A diagonal passage produced a more symmetrical arrangement than a lateral passage, with two of the tower's sides in line with the two curtain walls. It was only practicable, however, when the curtain walls were relatively thick, and required extra work on the part of the masons to cut the obtuse-angled blocks needed for the passage. A corner-tower of this type dating to before the sixth century has been excavated at Thabudeos (*6). The third type of rectangular corner-tower has a Z-shaped entrance-passage, set within the thickness of the walls. As with the previous type, the walls were built relatively thick and the curtains were in line with two sides of the tower (Fig. 5 c). Examples are found only at Tubunae and Limisa. Only one example is known of a tower,

IV.5.

in this case a corner-tower (Limisa), built across the line of the walls in the manner of late Roman towers (Fig. 5 d) (*7). Such an arrangement was not usually favoured in the sixth century, because it forced the rampart-walk to pass through the tower instead of behind it (*8). In some towers (eg. Agbia), there are lateral entrances which have no passage-way at all, owing to the failure to align the tower's walls on the curtains (Fig. 5 e). Another type of rectangular corner-tower, which in some cases seems more like an open gorge bastion than a tower, was one that flanked only one of the adjacent curtain walls (Fig. 5 f). Such towers, or bastions, are found at Calama, Thubursicu Bure, Mactaris and Musti; at the latter two places they flanked postern gates.

Except where an extra floor was inserted (eg. Thamugadi, Limisa, Madauros), a tower's first floor stood at the same level as the rampart walk, which passed behind it and communicated with it through a narrow door similar to the one at ground level. At Theueste, the surviving corbelled rampart-walk passes behind the towers with no difficulty; but at some sites (eg. Ksar Belezma) the presence of stone buttresses suggests that a slight detour carried on arches was necessary to negotiate the tower. In certain types of corner-tower difficulties of this kind may also have arisen. Diehl's plan of one of the towers at Thelepte (Tower e) illustrates just such an example; here, the inside corner of the enceinte was rounded off, somewhat clumsily, and it may be assumed that the rampart-walk was corbelled out diagonally above, as appears to have been the case in some of the Danube fortifications (*9). At Gastal, where the corner-towers were circular, the corner of the enceinte has a bevelled plan for apparently the same reason.

In no tower was there found any evidence for internal communication

IV.5.

between the ground floor and the first floor. Indeed, the existence of vaulted floor-divisions in a number of towers demonstrates that such would not have been normal practice. The only way to proceed from the ground floor to the first floor of a tower was by means of the rampart-walk, access to which was limited to a number of staircases provided at various positions around the enceinte.

Evidence for the means of access to the top floors of towers only survives at Theueste. Here some towers still bear the remains of external staircases, corbelled out from their inward-facing walls; where the steps reached the rampart-walk, the parapet was raised slightly next to the tower wall to shield the defenders from the enemy. In the quadriburgium at Limisa, however, the other site where some of the towers still survive to their full height, there is no evidence of external stairs, and the exposed position in which defenders would have found themselves when ascending the towers on the outside suggests that here access to the top storeys would have been from inside the towers. As a general rule, however, it would seem to be the case that internal access between any of the floors of a tower was uncommon in Byzantine African fortifications, and that the second, and often the third, floor could be reached only from the rampart-walk.

In the de Aedificiis, Procopius writes that Justinian doubled the number of towers already existing on the town wall at Constantina, in Mesopotamia, and also doubled the height of the towers and walls. 'And he also built covered approaches (ἀνδδοι) to the towers, and he made them three-storied (τριώροφοι) by adding courses of stones curved in the form of vaults (θόλοι); thus he made each one of them a πυργοκίστελλον as it was called and as it actually was. For they call forts castella

IV.5.

in the Latin tongue' (*10). This is the only occasion on which the word **πυργοκάστελλον** occurs in ancient sources, although on two other occasions, when referring to Theodosianopolis on the Persian frontier and Toperus on the uia Egnatia (*11), Procopius mentions strong towers that were like forts (**φροδρία**). Unfortunately, nothing survives at any of these sites to clarify Procopius's meaning. Some medievalists, however, Deschamps among them (*12), have followed Diehl in interpreting Procopius's **πυργοκάστελλον** as a proto-type for the medieval donjon or tower-keep (*13). But there is nothing in Procopius's account to suggest that the **πυργοκάστελλα** at Constantina were anything other than strongly defended towers, flanking the town walls in the normal manner. Diehl also claims that **πυργοκάστελλα** as a class were isolated (like medieval donjons) from the adjoining curtain wall and were provided with a single entrance and an internal staircase (*14). Just such an arrangement is attested in Procopius's description of the changes which Justinian made to the towers on Anastasius I's Long Wall in Thrace; but Procopius does not call these towers **πυργοκάστελλα** (*15). Furthermore, the towers at Constantina were transformed into **πυργοκάστελλα** precisely through the insertion of vaulted floors, which suggests that no internal communication between floors was intended.

The surviving evidence of the Justinianic fortress of Sergiopolis (Rusafa), on the eastern frontier, also suggests that **πυργοκάστελλα** were no more than strong towers. Here there are two types of tower: the larger ones, not all of which are rectangular, are between 9.05 and 11.55 m. broad and project 10.40 m.; they alternate with smaller turrets, 4.95 m. broad, which project 2.95 m. The turrets are open-gorge and communicate directly with the two-tier chemin-de-ronde (see Ch. IV.

IV.5.

4: 280). The towers proper, however, communicate with the chemin-de-ronde, as at Theueste, by means of a narrow door, which could be closed from inside the tower. The first floors at Rusafa were made of wood; but the other two were vaulted, and there is no evidence for any internal communication between any of them. Instead, access was provided by means of stone staircases, built against the inner face of the curtain wall and of the towers (*16). Nowhere in Africa does one find fortifications built on so elaborate or massive a scale as at Rusafa. However, there are enough points of resemblance to suggest that the towers to be seen at Theueste and elsewhere in Africa were merely scaled-down versions of grander prototypes that were built in the east against the Persians.

The ground floor of towers in Africa, like the lower part of the curtain wall, played no active part in the defensive system. Often, as at Theueste, there are no outward-facing windows at all, and where they do occur, as at Tignica, Thamugadi and Limisa, they take the form of inwardly splayed slits, positioned high up on the walls and sloping down on the inside. Their purpose was evidently to provide lighting for the tower chamber, and they were not intended to be used for discharging arrows.

At Rusafa, the two floors of the towers which communicated with the two-tiered chemin-de-ronde of the curtain wall were each provided with eight casemates for ballistae or archers, which narrowed to a slit on the outside; there were two in the front wall and three in each side wall (*17). In Africa, where there was only ever a single chemin-de-ronde, the number of embrasures in the towers at first-floor level is always limited (eg. Thubursicu Bure, Lepcis Magna, Tignica, Limisa), and they cannot compare with the regular rows of casemates at Rusafa.

IV.5.

Neither do they appear to have been intended for ballistae. At Theueste, however, the first-floor chambers of the towers are lit by a window in their inward-facing walls and have no embrasures facing outwards at all. Small bartizan-like chambers, corbelled out from the wall in the angle between the curtain and the sides of the towers and entered from the rampart-walk, may have been able to provide some flanking fire from this level; but it is more likely that their principal function was to serve as latrines, in which respect they would have been identical to those added to the walls of Rome in Maxentius's re-fortification (*18). The defensive potential of the first floor does not therefore appear to have been in general very much greater than that of the ground floor, and the evidence at Theueste suggests that providing flanking fire from this level was not a primary function of it.

Little is known, however, of the other functions served by tower chambers, though it seems unlikely that they would always have been the same. In two cases, at Thagura and Ksar Otsman, the lower floor was taken up by a cistern. Other uses may perhaps include space for the storage of supplies and armaments, accommodation for troops, administrative offices and prisons; in the case of town walls, the ground floors of the towers may even have been let to private individuals (*19). It was probably for convenience, rather than for any specific military purpose, that the rampart-walk virtually always passes behind instead of through the tower, after the fashion of late Roman towers and bastions (*20).

The main defences of the towers, and indeed of the whole enceinte, were concentrated on their upper floors, which unlike most Hellenistic towers were left open to the elements (*21). An unroofed upper floor

IV.5.

is advocated by Maurice so that the defenders would not be cramped for space (the parapet could be built narrower than a wall designed to support another floor or a roof) and so that they could use their ballistae to greater effect (*22).

In Hellenistic fortification, the two factors which influenced the shape of towers were both, not unnaturally, connected with artillery. They were the resilience of differently shaped structures to bombardment by the enemy's siege-engines, in particular their stone-throwers, and the field of fire that was obtainable by stone- or bolt-firing catapults mounted within the towers themselves. Although the first of these considerations seems to have concerned Philon of Byzantium more than the last (*23), the surviving archaeological evidence suggests that both were of equal importance (*24).

When bolt- or stone-firing catapults were mounted inside towers, under cover and firing through embrasures, certain shapes of tower were found to provide a better field of fire than others. In general, rectangular towers are less satisfactory than other types, both on account of their lack of solidity (*25) and because of the restricted field of fire that a rectangle allows, though the latter can be compensated for by arranging the towers in a line so that each one covers the areas of dead ground in front of the one next to it (*26). Although it is likely that the towers of Byzantine fortifications in Africa had fewer ballistae to play with than the towers of a Hellenistic town wall, their field of fire would have been greatly increased by the practice of mounting them on the top storey of the tower, in the manner recommended by Maurice. The fact that the Moors had no experience of siege warfare also goes some way to explain why rectangular towers, which are more

IV.5.

economical to build and provide more scope for the utilization of their lower chambers than other types of tower, were so common in Africa.

Other tower-plans do occur, however. The second most frequent are circular or drum-towers (*27). The theoretical advantages of circular towers over rectangular ones are that they are structurally sounder, less vulnerable to artillery battering (*28) and can command an all-round field of fire (*29). In Hellenistic fortifications, rounded, circular or polygonal towers were often placed in exposed positions on account of their relative strength (*30). It was no doubt for the same reason that circular towers were built at the corners of the fortresses at Bagai, Cululis, Thelepte and Laribus, all four the work of Solomon (*31). At Ammaedara, a round tower on the east wall flanks a small postern gate; it is set tangentially to the curtain wall, to which it is bonded by straight walls on either side. At Thelepte, the circular corner-towers are seen to rest on square foundations. At Tigisi, one of the towers appeared to be elliptical in shape, probably because its foundations had shifted. It is curious to note that while circular towers are well attested on town walls in Africa, only at one site, Gastal, are they found at the corners of a fort; the date of this fort, however, although likely to be Byzantine is not yet firmly established (*32).

The de Re Strategica advocates a single type of tower. This had the shape of a hexagon with one of its angles pointing towards the enemy and the two opposing sides replaced by the curtain wall. On the inside it was to be circular (*33). These instructions produce, in effect, a pointed tower, shaped like a cutwater, with four projecting sides and three angles of 120° each (*34). The system receives its finest expres-

IV.5.

sion in the citadel wall built at Ancyra (Ankara Kale) probably by Heraclius in around 630 (*35). Such towers are rare in Hellenistic fortification, probably on account of their unsatisfactory field of fire, which leaves a corridor of dead ground directly in front (*36). They are unknown in the west Roman Empire before the construction of the town wall at Dyrrhachium (Durazzo) by Anastasius I (*37). In Justinianic fortifications, they occur at Rusafa (*38) and flanking the gateway in the cross-wall of Justinian's new city of Iustiniana Prima (Caričin Grad) in Illyricum (*39). In Africa, a cutwater-shaped tower is identifiable at Bordj Hallal (Tower j), where it may possibly be a later addition, and, less certainly, flanking the cross-wall at Tipasa (Tifech) (*40).

At Tigisi, however, the south gate was flanked by a pair of towers shaped like engaged octagons, one of their angles facing the enemy and the opposite four faces replaced by the curtain wall; inside, they were circular, in the manner recommended by de Re Strategica. This is the nearest that African fortifications approach the principles of tower-construction laid down in the manual (*41). At least two other polygonal (hexagonal) towers are recorded at Tigisi; both of them are placed at corners of the enceinte (*42).

Finally, rounded or U-shaped towers, although common in late Roman defences in the western Empire (*43), are unattested in Byzantine fortifications in Africa (*44). At HENCHIR GUESSÈS, the enceinte is flanked by rounded towers of somewhat triangular plan; but this fortification is probably earlier than the sixth century. Rounded towers are not unknown in sixth-century Byzantine fortifications; fan-shaped towers, for example, were added to the corners of the third- to fourth-century

IV.5-6.

fort at Boljetin on the Danube frontier in the sixth century (*45).

However, their absence from fortifications in Africa adds support to the idea that the defences of Byzantine Africa owed more to Hellenistic than to western late Roman practice.

It may be concluded that, except at Tigisi, there is little variety discernable in the design of towers in Byzantine Africa. Although the influence of Hellenistic rather than Roman prototypes is more in evidence, rectangular towers are the most common type and where circular or polygonal towers occur they are placed at the corners of the enceinte or in exposed positions. The reasons for the lack of innovation were probably the need to economize, since the fortifications were being paid for largely out of local taxes, and the lack of expertise in siege tactics on the part of the enemy, the Moors.

6. Gateways.

The gateways of Byzantine fortifications in Africa are in general narrower, but no less well defended, than those of late Roman fortifications. At Thubursicu Bure, for example, one may see how a Roman monumental arch, which at one time gave access to the city centre, was reduced in width in the sixth century from 4.14 m. to 2.50 m., when it was incorporated into the town wall. In the Balkans, too, the reduction in numbers and the restriction in size of the gates to fortified towns is a feature of the fifth and sixth centuries, brought about by the insecurity provoked by the invasions of the Huns, Avars and Slavs (*1). In Africa, the main gates of defended sites vary in width from 1.84 m. (Limisa) to 3.90 m. (Mileu); but the average is about 2.70 m. Postern gates have an average width of 1.45 m., within a range of 1.00

IV.6.

(Thamugadi) to 1.70 m. (Ammaedara, Lepcis Magna). Double carriageways or side entrances for pedestrians, already rare in late Roman fortifications of the third to fifth centuries, are completely absent, though it may be noted that they are still to be found in some of the more elaborate and heavily defended Justinianic fortresses of the eastern provinces (*2).

The gates themselves, whether main gates or posterns, are usually arched (eg. Mileu, Theueste, Tubernuc, etc.). A more typical arrangement, however, especially for postern gates (*3), was to have a flat lintel surmounted by a relieving arch. This system is also found on the main gate to the fort at Madauros; here there is a void between the arch and the lintel, but whether this was originally closed by a grille or by a blocking of smaller masonry that has now fallen out is uncertain. Some postern gates (eg. Thamugadi) simply have a lintel. A different system survives at Lepcis Magna, however, where the main gate has a flat arch, composed of joggled voussoirs, behind which is a somewhat wider barrel-vaulted passage (*4). As in many Roman and medieval fortifications, gateways were a favourite position for setting up inscriptions giving the names of the rulers and officials responsible for their construction (cf. Gazetteer CB).

Five main types of gateway are found in Byzantine African fortifications: (a) plain or buttressed gateways, (b) gateways flanked by a pair of towers, (c) gate-towers of the straight-through type, (d) bent entrances within a gate-tower and (e) gates flanked by a single tower. The latter two types were particularly favoured for posterns.

Plain entrances (a) are those set at or near the centre of a stretch of curtain wall, for which little or no attempt to provide extra pro-

IV.6.

tection is apparent from the ground-plan. However, in practice, no gate was ever without some kind of additional defence, even if it appears in plan to have been virtually undefended (*5). At Diana, Tubernuc and Tignica, for example, the main entrance, placed in the centre of the fort's curtain wall, may seem exposed; but in this way it would have been possible to direct a more effective flanking fire from the corner-towers onto anyone who approached it. This shown particularly well at Tignica, where one of the gates is in the centre of the longest curtain wall, about 35 m. from either corner-tower; the gate could therefore have been covered by archers posted on top of the two towers; conversely, where the distance between the gate and the flanking towers was small, the absence at this date of angled embrasures allowing a depressed field of fire (*6) would have placed restrictions on the ability of archers to cover the gate at very close quarters. At Tipasa (Tifech), the main gate of the fortress is set in the centre of its south wall, the trace of which is indented to allow the defenders a broader field of fire (*7). The outside of the gate itself was flanked by a pair of small buttresses, 1.60 m. broad and projecting 2.00 m., which formerly supported a barrel-vault. Such an arrangement was also seen by Gsell and Ragot at Zarai, although it is not certain from their descriptions whether the gate projected from the wall or not (*8). Evidently, where they occur, such buttresses were intended to support a superstructure; but whether it was a tower, standing above the rampart, or merely a widening of the rampart-walk to enable more men to be concentrated at the fort's weakest point is uncertain. At Limisa a gate of this type projected only 1.00 m.; evidently, had the projection been more, a zone of dead ground would have been created in

IV.6.

front of it, in just the position where the rampart was most vulnerable (*9). In none of the forts just mentioned is there evidence for more than one set of barriers obstructing the entrance. Had the attackers succeeded in breaking through this, the attention of the defenders in the towers and over the gateway could no doubt have been turned inwards upon them; but in the absence of excavation at more than a handful of sites, it is difficult to know what further obstacles there may have been inside the fort. At Tubernuc, for example, the entrance led up along a sunken passage, from either side of which attackers could have been enfiladed from above.

In the larger enceintes such as town walls, it is more common to find the gateways flanked at close quarters by a pair of towers or, in the case of the larger forts, set within a gate-tower. At Tigisi, the south-west gate of the fortress is flanked by a pair of towers, octagonal in shape with six projecting faces and a circular plan inside (Fig.). They were about 7.30 m. broad and stood 9.00 m. apart, flanking a gateway 3.20 m. wide. On the right-hand side of the gate-passage was a narrow doorway leading to a guard chamber; however, no evidence survived as to the nature of the gates themselves. This gateway represents the nearest equivalent amongst Byzantine fortifications in Africa to Philon of Byzantium's gateway flanked by hexagonal towers (*10). More commonly, however, gates were flanked by rectangular towers: examples include Bagai (?2), Cululis (?2), Laribus (?3), Mileu, Lepcis Magna and Theueste. At Ammaedara, the main road from Carthage, one of the most important strategic and economic routes in the whole of Byzantine Africa, entered the town's citadel through a gateway (which has yet to be cleared and excavated) flanked by a pair of massive rectangular towers, about 11.50 m. broad and projecting about 10.00 m. If some allowance is made for scale, the proportions of the gateway,

IV.6.

more imposing than any other surviving gateway in Africa, are reminiscent of the Golden Gate at Constantinople itself; more plausibly, perhaps, the gate may have been intended to mirror a gate on the walls of Carthage, which were also built under Theodosius II. A pair of corbels, projecting from the north tower and facing the roadway, evidently once supported an inscription or sculptured frieze, perhaps an acclamatio (*11).

At only three of these sites is there any evidence for the system that was employed for closing the gate. At Lepcis Magna, Gate B2 appears to have had only a single pair of wooden wing-doors opening inwards. This may explain why in a later phase the gate was walled up. The strength of the gateway depended on its defenders being able to keep the enemy at a suitable distance, so that its three tiers of fire, ballistae perhaps on the tower-tops and archers on the lower two floors, could be used against them to the greatest possible effect. At close quarters, and without so it seems the existence of any machicolation (*12), the gate would have been particularly vulnerable both to battering and to fire in view of the size of the entrance, 2.50 m. wide and 6.50 m. high. A monumentality that would inspire would-be attackers to keep their distance may have been one of the intentions of the design.

At Theueste, however, the so-called Forte de Solomon represents a more sophisticated example of military planning, although in many respects it still resembles the gate at Lepcis. Here the attackers had to pass through an outer and an inner gate, set between flanking towers, in order to get inside the town (*13). The outer gate was probably closed by means of a pair of wooden wing-doors, while the inner one, placed about 4.0 m. behind it, consisted of a portcullis, or cataracta, operated

IV.6.

from a chamber over the gate-passage. The use of a portcullis seems here to have been mainly for convenience; had a second pair of wing-doors been inserted in its place, they would have had to have been set behind the inner arch of the gate-passage and could not have been very resilient unless strengthened by buttresses behind. As it was, on the approach of the enemy, the guards could emerge from their guard-chambers, which occupy the lower floors of the towers flanking the entrance passage, close the outer gate and retreat to a position over the gate by way of the stone stair case just inside the wall to the left of the entrance. From here they could rain missiles on the heads of the attackers, lower the portcullis if the need arose and raise it again if a sally were to be mounted from inside the town. It seems quite likely that the 'double' gate noted by the excavators at Cululis was of the same model.

The system of presenting the attacker with a series of barriers within the entrance-passage (*14) may be traced back to Hellenistic examples (*15), as may also the idea of placing the entrance-passage within the ground floor of a tower (*16). Gate-towers are found in Roman fortifications, for example in the mile-castles on Hadrian's Wall (*17) and in some of the gsur of Tripolitania (*18); wooden examples are also known (*19). However, the classic medieval combination, of a gate-tower with two barriers set one at either end of its ground-floor chamber, the outer one usually a portcullis and the inner one a pair of wing-doors (*20), developed only in the late Roman period. Examples of this arrangement are to be seen at Iatrus and Abritus in the lower Danube region on town walls built at the end of the third century or in the fourth (*21).

Examples of gate-towers having only a single barrier can be found

IV.6.

in Byzantine Africa at Ammaedara, in the fortlet at Thubursicu Numid-iarum and in the converted arch of Caracalla at Theueste, which was also in effect a gate-tower. In the five other known examples of gate-towers, however, there were almost certainly two barriers. At Madauros, both the outer and inner one consisted of a pair of hinged doors, opening inwards and separated by a distance of 5.0 m; some oddly shaped slots in the threshold of the outer door evidently related to the mechanism for bolting it when shut; but how the system worked is uncertain. At Tubunae and Thamallula, the nature of the barriers is not known. At Ksar Belezma and Thamugadi, however, the inner barrier consisted on a pair of doors, as at Madauros, while the outer one was a portcullis operating in a slot in the stone-work. The inner door at Thamugadi was secured when shut by a draw-bar, operating within the thickness of the wall, the slots for which measure 20 x 20 cm. in section (*22). The outer gates of both gate-towers are represented by a vertical portcullis-slot set in each side wall; at Thamugadi the slot is about 15 cm. and at Ksar Belezma about 20 cm., wide and deep (*23). These two gate-towers may be compared with that of the late tenth-century Byzantine fort at Pačuiul lui Soare, an island in the Danube, built probably under John I Tzimisces (*24). This gate-tower had a portcullis 3.60 m. wide, operating in a slot 16 cm. wide and 23 cm. deep, which suggested to one of the excavators that the portcullis had been a solid plate of wood, rather than one of the normal medieval type consisting of a wooden grille strengthened with iron (*25). However, comparison of the size of the slot with those of surviving, though much rebuilt, fourteenth-century portcullises and their slots in the medieval walls of York suggests that the grille type need not be discounted. The portcullis in

IV.6.

Bootham Bar in York is made of 7.5 x 10 cm. (3 x 4 in.) timbers and the slot in Fishergate is only 12.75 cm. (5 in.) wide (*26). In all three Byzantine examples cited, the portcullis would have been operated from the first-floor chamber over the gate. At Thamugadi, an observation post was also provided in the east wall of the tower at first-floor level.

The portcullis was not a new weapon in the sixth century. It was described by Aeneas Tacticus in the fourth century B.C. and was recommended by him for use in a ruse, in which it could be dropped on the heads of the enemy, killing some, preventing others from entering and leaving the rest at the mercy of the defenders (*27). Vegetius, writing in the fourth century A.D., recommends its use for imprisoning bands of attackers: 'But more useful is the ancient device of adding in front of the gate a projecting work (propugnaculum), in the entrance to which is placed a portcullis, suspended from iron rings, in such a fashion that, if the enemy gets in, it could be dropped behind them and they, so imprisoned, be dispatched' (*28). Just such a strategem had been used by the inhabitants of Salapia against Hannibal in 208 B.C. (*29), and it was probably with the same ideas in mind that the late Roman gate-tower, with its inner door and an outer portcullis, was developed. The possible uses and advantages of an outer portcullis may be summarized as follows: (a) it would provide extra defence for the inner gate; (b) unlike wing-doors, it could be closed if the garrison were taken by surprise, even if the enemy were already inside the gate; (c) it could be used as a surprise weapon to be dropped on the heads of attackers or to trap them in the base of the gate-tower, where they could be dispatched by means of murder-holes made in the first floor (*30); (d) having a portcullis as the outer gate also reduced

IV.6.

the possibility of trapping one's own men between the two gates, since the outer gate did not have to be operated from ground level.

In the Balkan region, a number of gateways of the more usual late Roman type, flanked by a pair of towers, seem to have been strengthened in the fifth or sixth centuries by the addition of a gate-tower to their inside or outside face (*31). In each case, the outer of the two gates, contained within the new composite gate-house, consisted of a portcullis. It is of interest to note that the same pattern of development may also be seen on the south gate at Sabratha, where an outer gate, set within a gate-tower, was added to the front of an existing gate flanked by a pair of rectangular towers; however, in this case the outer gate seems to have had a pair of wooden wing-doors.

In Hellenistic and late Roman fortifications, posterns usually have bent entrance-passages and are often found in the flanks of towers or in the curtain walls adjoining them (*32). The postern gates of both periods were often arranged so that the defenders, when making a sortie, would emerge with their shielded sides facing the enemy (*33). It was equally well appreciated, however, that by reversing this arrangement an enemy approaching the gate could be made to do so with his exposed unshielded side facing the defenders on the walls (*34). Either type of bent or oblique entrance therefore had its advantages, and it is not surprising that both types are found in sixth-century Byzantine fortifications. At Lepcis Magna, Tower B4 contained a postern gate in either flank. At Ksar Belezma, however, the postern gate is in the right flank of the tower, as one looks at it from the outside, and at Thelepte on the left flank.

In only two cases, at Anastasiana (Henchir Sguidan) and Tignica,

IV.6.

did main gateways have bent entrances. In the former, the entrance is in the right flank of a projecting tower; at the latter it is in the left flank. A possible third example, at Vaga Theodoriana, does not survive and may in any case have been a Muslim addition. Creswell has disputed the identification of the bent entrance at Tignica as original Byzantine work, arguing that it was a Muslim insertion (*35). However, comparison of its masonry with that of the north gate at Thurbursicu Bure suggests that the gate at Tignica was an original feature and that the two gates may even have been contemporary, as Diehl formerly argued for entirely different reasons (*36). If that were so, it might be possible to link both the bent entrances at Anastasiana and at Tignica with the prefect Thomas, who is recorded as the builder of the walls at Thubursicu Bure under Justin II and of the fort at Anastasiana under Tiberius II Constantine.

The final type of entrance to be considered is that flanked by a single tower. At Thugga, Ksar Otsman, Calama and Theueste, there are examples of main gates flanked by only one tower. More usually, however, this type of flanking is used for posterns. Examples may be found at Calama, Agbia, Gadiaufala, Sitifis, Thamugadi, Tubernuc, Cululis, Lepcis Magna and Mileu. At Ammaedara, a circular tower flanks the postern gate in the middle of the east wall, while at Mactaris and Musti the posterns are flanked by what appear to be narrow bastions rather than towers (cf. Section 5: corner-tower, type f). At Madauros II, the postern is flanked by the hemi-cycle of the Roman theatre incorporated into the wall. Amongst all these examples there is no discernable preference for having the entrance flanked to left or to right.

It has already been noted that Byzantine gates tended to be narrower

IV.6

than Roman ones. However, many of the Byzantine gateways in Africa were blocked up before the end of Byzantine rule. At Thamugadi, at least one of the postern gates was blocked soon after the fort was built, since part of the internal structure butts against its blocking. Lassus argues plausibly that all three posterns were intended solely to facilitate the movement of building materials into the fort during its construction, and that they were all blocked up as soon as it was completed. However, two of the postern gates have passage-ways leading to them from the streets inside the fort, and would not appear to have been blocked until after the fort's internal structures had been built in the form in which they now survive. Postern gates are in any case such a common feature of late Roman and of Byzantine fortification, that it is hard to believe that their purpose was not primarily military; it would follow that military reasons should be put forward for their blocking.

At Tigisi and Diana Veteranorum, the main gates were subsequently narrowed, but this probably took place in each case in a post-Byzantine phase of occupation; at the former the constriction of the gate is associated with a raising of the street level (*37). At Lepcis Magna, the main gate was completely blocked in fine masonry of Byzantine type. This may indicate the abandonment of the street after it became eventually clogged with sand; but it is also possible that it represented a positive attempt to fortify the gate, in the same way that Belisarius walled up the Porta Flaminia in Rome in 537 (*38). The fact that it was never reopened, however, and the tendency at other sites for secondary gates to be walled up (*39) argues for there having been a gradual reduction in the size of the garrisons and an increasing reliance on masonry rather than man-power to defend them.

IV.

7. Internal structures and services.

Very little can be said of the arrangement of the buildings inside fortifications on account of the lack of adequate published material from excavations. Barracks and stables, however, have already been discussed in Chapter III (*1). This section will therefore be concerned with the archaeological evidence for chapels and for the measures taken to supply three of the most pressing needs of garrisons, food, water and sanitation.

Chapels are attested in the Byzantine forts at Thamugadi and perhaps at Mactaris and Thugga, while a small citadel-church or chapel was also built against the inside of the walls at Ammaedara. The architectural similarity of the Byzantine church inside the defences at Sicca Veneria that is known as the Dar el-Kous with this latter example would also argue for its inclusion in the list of 'military' religious buildings (*2). Discussion of the layout of these monuments lies more in the province of early Christian archaeology than of military architecture. The following remarks will therefore be concerned principally with the functional aspects of chapels associated with fortifications (*3)

Although corporate acts of worship by the Byzantine army on campaign in Africa are recorded by Corippus (*4), it is evident from the small size of all the chapels that have been identified inside fortifications that they were not intended to be used by more than a handful of people at the same time. The overall measurements of the chapel at Thamugadi, including the narthex and apse, for example, were only 10.8 x 18 m., comparable in fact with the chapels built inside the sixth-century Danubian fortifications at Boljetin and Veliki Gradac, which measured

IV.7.

respectively 7 x 16.5 m. (*5) and 8 x 19 m. (*6). These military chapels, however, were more than simply places for worship; it seems likely that they also performed functions analagous to some of those performed in the pagan period by the sacellum which had occupied part of the principia of a fort (*7). It is clear, for example, from what Procopius says of Justinian's dedication of churches or chapels at Lepcis Magna, Carthage and Septem that one function of the sixth-century garrison- or palace-chapel was to house a shrine dedicated to the saintly protector of the empire, the Virgin Mary (*8). It is not improbable, although evidence for such a practice has yet to be provided, that the chapel would also have contained the standards of the unit(s) of the garrison. Another administrative function of military chapels is suggested by Goodchild, in his discussion of the chapel attached to the palace of the dux of Libya Superior at Apollonia, namely that of serving as a place in which oaths regulating affairs between the local military commanders and the leaders of the Moors could be taken over relics (*9). In the chapel of the fort at Thamugadi, as in the palace-chapel at Apollonia, there is evidence for the existence of a reliquary deposit beneath the main altar, and in a later period a sarcophagus was also inserted beneath the raised floor of the apse. The cist burial found in the part of the fort at Mactaris that has tentatively been identified as a chapel may also have represented a deposit of relics.

The need to have ready adequate supplies of food and water for the inhabitants and garrisons of fortified towns in case of siege is stressed by the sixth-century military manuals (*10). Having an abundant supply of water was particularly important to sixth-century garrisons, in view

IV.7.

of the prominent part the cavalry played in the warfare of the day. At Thamugadi and Limisa, the siting and layout of the forts was largely dictated by the prior existence of Roman piscinae fed from near-by springs. Springs are attested inside the fortifications at Agbia, Anastasiana, Capsa (salty), Caput Vada, Constantina, Cululis, Laribus, Mileu (where the restored Roman fountain is still in use), Thubursicu Bure, Tigisi and Tignica. At Mactaris a well was dug. Springs are also known to exist near to the forts at Aïn Bou Driès, Chusira, Gadiau-fala, Madauros, Sitifis and Zarai. At Madauros, the well was reached by way of a subterranean passage, leading some 30 m. north of the fort. Carthage was still supplied by water from the Zaghouan aqueduct until 533, when Gelimer cut it on his approach to the city (*11); no doubt it was subsequently repaired. Aqueducts are also recorded at Lepcis Magna, Limisa, Thagura (?), Thamugadi, Thugga and Tubunae. At Ammaedara, Ksar Graouch, Ksar Otsman and Musti, cisterns survive within the fortifications, but there is no indication of where the water came from. At Thamugadi, a system of stone conduits took the water to the various parts of the fort.

Little is known about the storage of food supplies in Byzantine forts in Africa (*12). In 544, the inhabitants of Laribus had to resort to negotiation to raise the siege of the city by the Moors, since, taken by surprise, they had not had time to bring enough food into the city to withstand a long blockade. Large granaries and armouries, however, would have been built in 547 when John Troglitas made the town his military base (*13). Maurice's Strategicon states that a campaign fort should contain enough food for its garrison to last three or four months (*14). The staple diet of soldiers on campaign was biscuit (bucellum),

IV.7.

baked twice so that it would last the longer (*15). However, no horrea have yet been positively identified, although Lassus has interpreted the north-western quarter of the fort at Thamugadi as a service area, containing stores and kitchens (*16). Evidently, on the question of military diet in the sixth century archaeology has still much to tell us.

In a climate that for certain times of the year becomes exceedingly hot, and within the cramped quarters of a sixth-century fort, sanitation must have posed a severe problem, with a direct bearing on the military effectiveness of the troops (*17). At Thamugadi, latrines have been identified by Lassus in the north-western part of the fort (*18). At Sufetula, a row of six latrine chutes within the thickness of the wall is preserved at the west corner of the northern tower-house, comparable to the type that later became ubiquitous in medieval towers in Italy (*19). At Theueste, the angles between each tower and the curtain wall were occupied by a small chamber, 1.10-1.20 m. square, corbelled out from the wall. Diehl (*20) and Maitrot (*21) interpret these as guard-chambers, designed to give flanking fire to the tower and curtain walls. This may have been a secondary function of the chambers, though an effective flanking fire would probably have been difficult to achieve in so cramped a space (*22). Comparison with Maxentius's work at Rome (*23), however, and analogy with standard medieval practice (*24), suggest a more plausible interpretation of these features as corbelled latrines. Unfortunately, little now remains of them and it is not therefore possible to ascertain whether the customary hole in the floor, that would clinch the argument, existed or not; it is likely, however, that the chambers would have been repaired and remodelled during their

IV.7-8.

millenium-and-a-half of existence, in the latter part of which they could well have served as bartizans in the manner envisaged by Diehl and Maitrot, but for Turkish soldiers armed with muskets. Corbelled latrines are a feature of fifth- and sixth-century towers and tower-houses in Syria (*25), and the dual sanitary and military function that such structures could sometimes perform is illustrated by one Greek example on the Aegean coast of Turkey which dates from the mid-nineteenth century (*26).

The excavations at Thamugadi have also revealed the remains of a bath-building, forming part of the group of structures in the western half of the fort. The baths were of Turkish rather than Roman type, with a series of small hot rooms and two small (1.20 x 1.40 m.) plunge baths. The dimensions of the whole building were only 11.50 x 15.50 m. Lassus is surely correct in seeing it as intended solely for use by the officers of the garrison (*27).

8. Conclusion.

From the foregoing discussion there seems to be little doubt that the design and layout of sixth-century fortifications in Africa were in line with standard Byzantine military practice, as were the tactical considerations which lay behind them. In certain types of unofficial fortification, such as gsur and, no doubt, villas, though little is known about them, it is easier to argue for a local development continuing through the Vandal interregnum. Even gsur can be paralleled elsewhere, however, notably in Syria. External parallels for official fortifications, however, are easier to find. The Hellenistic influence in their design and in that of other contemporary Byzantine fortifications

IV.8.

is particularly apparent. In this respect they differ from earlier fortifications in Africa, such as the town walls of Tipasa in Mauritania, Caesarea and Thaenae, which can be paralleled more closely with fortifications in the western provinces, in particular those in Gaul.

CHAPTER V.

ENVOI - THE MIDDLE AGES.

The value of the Byzantine fortifications of North Africa in shedding light on possible origins of features of defensive architecture found in the later military works of the Byzantine empire and the Crusader kingdoms has not escaped the notice of military and architectural historians since the appearance of the first comprehensive study of them by Ch. Diehl in 1896 (*1). As explained in the preceding chapter, the many forts and town walls with which the Roman empire was covered in the period extending roughly from the reign of Diocletian to that of Justinian betray clearly the formative influence that Hellenistic principles of defence, relearned either from surviving structures or from military treatises, exerted on the military architecture of the period. The heritage of stone-built fortifications, left by the military architects of the later Roman empire, was in turn to provide models no less important for the military architects of the medieval world of western Europe and the Mediterranean. In examining the relevance of the Byzantine fortifications of North Africa to the study of the military architecture of Greek and Latin Christendom and of Islam, however, two points need to be considered. First, any influence that the surviving buildings themselves could have had, by serving as models for later builders to imitate, would have been limited to North Africa and the parts of the medieval Muslim world with which it was in closest contact, such as for example Spain and Sicily. Any direct influence on Christian architecture, whether Greek or Latin, would have been unlikely since, from 698 until the close of the seventeenth century, the interior parts of North Africa were a closed region to European travellers. Secondly, despite this, the Byzantine fortifications of Africa can nevertheless serve as an important reference point for historians studying

V.

the development of Byzantine military architecture in general, because, as already noted (*2), they form a well-defined and well-dated group of structures, in most cases built de nouo in the sixth century and having suffered few subsequent alterations,

After the final collapse of Byzantine Africa in 698, fortifications of a non-official character continued to be built in much the same way as before, either by the same local inhabitants or by newly arrived Arab settlers. The majority of these works cannot unfortunately be dated with any precision. Excavation, however, is beginning to produce good evidence from some sites not only for the continued occupation of Byzantine ksour after the fall, but also for the construction of new ksour in the early Muslim period (*3). One example of the latter is Henchir el-Faouar, in northern Tunisia. Here a fourth-century church, still in use in the early seventh century (*4), was converted into a small fort early in the eighth. The walls of this were built, as in sixth-century Byzantine military works, using a double facing of dressed masonry and an infill of mortared rubble. Two differences from earlier practice may be noted, however, in the use of earth instead of lime mortar and of opus africanum instead of ashlar for the inner facing (*5).

Evidence for the survival of masonry traditions in the official works of the new Arab rulers in Ifriqiya is more difficult to establish. The earliest surviving official Muslim buildings, which date from the late eighth and early ninth centuries, suggest that freshly quarried stone was rarely, if ever, used in that period; masons contented themselves with reusing Roman or Byzantine spolia and, when those ran out, they used smaller more roughly shaped stones, often bonding them with horizontal or vertical string courses of larger more regularly shaped blocks (*6). The resemblance which the ashlar masonry of a number of

V.

eighth- and ninth-century fortifications bears to standard Byzantine work, however, has led in the past to the ninth-century ribats of Lemta (*7) and Bordj Younga (*8) being identified erroneously as Byzantine forts (*9).

The points of resemblance between the early medieval ribats of Ifriqiya and Byzantine forts cover more aspects than their masonry (*10). In plan eighth- and ninth-century ribats represent, in effect, almost perfect examples of quadriburgia, though in addition to their cylindrical corner-towers they are usually provided on three sides with semi-circular or polygonal interval towers and on the fourth with a gate-tower. Such, for example, is the plan of the ribat of Sousse, the best preserved ribat in Ifriqiya and one of the earliest, dating in all probability from the last quarter of the eighth century (*11). It has been argued by Creswell that rectangular fortified structures flanked by rounded towers, other examples of which are provided in an earlier period by the fortress-palaces of the Umayyads and, later in Ifriqiya itself, by those of the Fatimids (*12), developed in Muslim architecture from the Romano-Byzantine forts of the eastern frontier in which the first Umayyad ~~kh~~alifs established their seats of government (*13). There can be little doubt that the ribat of Sousse was designed by an architect dispatched from the east. Opinion is divided, however, on the extent to which in the military building-programme of the late eighth century to the early tenth in Ifriqiya some preference for this type of structure may have been given by the fact that Byzantine forts of broadly analogous form not only survived locally but, in the case of Ksar Belezma, Bagai, Tubunae and perhaps Limisa and Liana, were also refurbished and garrisoned in the same period (*14).

V.

The quadriburgium plan, with rectangular in place of rounded towers, may also be seen in the medieval and later Berber citadels and fortified granaries of the central and western Maghrib; in these, however, the inspiration may perhaps have come from late medieval Muslim castles rather than directly from surviving forts of the Roman or Byzantine period (*15).

The question of Byzantine influence, whether local or, as seems more plausible, by way of earlier Muslim buildings in the east, also arises when one considers the design of the gateway of the ribat of Sousse. This consists of a gate-tower, measuring about seven metres broad and projecting about four metres, and enclosing an entrance-passage somewhat under two metres wide. As in late Roman and Byzantine gate-towers, the entrance was closed by means of a portcullis as well as by a wing-door; but, whereas in the more typical Byzantine arrangement, exemplified at Thamugadi and Ksar Belezma, the portcullis was placed at the outer end of the entrance-passage, at Sousse it preceded the wing-door at the inner end by only a few centimetres, allowing free access to the entrance-passage from outside the fort. Curiously, Lézine in discussing its architectural origins overlooks the obvious Byzantine parallels and suggests that this type of gateway was the end-product of a Muslim development, which took as its point of departure the type of Roman gateway, exemplified at Castellum Dimmidi, in which the entrance was flanked by a pair of semi-circular towers (*16). Since, however, the gate-tower at Atshan (775), with which the gate-tower of Sousse finds a close parallel as Lézine observes, mirrors exactly the Byzantine arrangement described above in which the portcullis was placed at the outer entrance to the passage, it would seem more reasonable to assume that this type of entrance was adopted by the

V.

early Muslim builders directly from existing Byzantine practice (*17). The same is also likely to be true of the murder-holes, which at Sousse take the form of three slit-shaped apertures in the barrel-vault covering the entrance-passage. Lézine claims that these were a Muslim invention; however, as he himself points out, the form of the holes at Sousse suggests that they were a transposition into stone of a feature built at an earlier date in wood (*18). Since the Byzantine gate-towers at Thamugadi and Ksar Belezma would have had floors of wood, this observation merely serves to strengthen the probability that they too originally had murder-holes above their entrance-passages (*19).

The influence of sixth-century Byzantine practice is also shown in the design and construction of the town walls at Sousse, dated by an inscription to 859. This is perhaps not surprising if, as seems likely, they were built on Byzantine foundations (*20). One particular feature which seems to have been derived from local rather than general Byzantine practice is the use of internal arcades in order to conserve building materials (see Pl. LXXVIIb). Creswell and Marçais have already drawn attention to the similarity of the walls of Sousse in this respect to the sixth-century walls of Theueste (*21). Comparisons may also be drawn, however, between the design of the towers at Sousse and of those at Theueste, despite the somewhat smaller ground-plans of the former (only 3.20 m. wide, projecting 2.45 m.): as at Theueste, for example, the towers at Sousse stand several metres higher than the walls; the rampart-walk passes behind, not through them, and communicates with a chamber inside the tower at roughly the same level by means of a door opening into the tower; as at Theueste, there is no internal communication between the ground- and first-floor levels of the tower; unlike

V.

Theueste, however, access to the tower-top was by means of an internal ladder, and the first-floor chambers were also provided with rather badly designed arrow-slits (*22).

Some of the more general features of Byzantine military architecture in Africa which reappear in later Byzantine fortifications have been discussed already in Chapter IV. The quadriburgium plan, for example, was commonly employed in later Byzantine forts, as in the late tenth century at Sahyun in northern Syria (*23), and was later adopted by the Crusaders on a number of occasions (*24). One particular variant of this plan, with rectangular corner towers and a fifth tower containing a bent entrance at the middle of one side, is found at Tignica in Africa in the sixth century, at Paphos in Cyprus in the late tenth, and in the Crusader castle of Belvoir in Syria in the later twelfth (*25).

Gate-towers of the type already discussed in this Chapter, with an outer portcullis and an inner winged gate, are found in the late tenth-century Byzantine fort at Pačuiul lui Soare, on the Danube frontier, and in such western medieval fortifications as the fourteenth-century bars of York (*26). The argument advanced by Deschamps that the bent entrance was a common feature of Byzantine fortifications in the age of Justinian and that it was later adopted from Byzantium by the Crusaders (*27) was attacked by Creswell, who dismissed the supposed examples of bent entrances in Byzantine Africa, considering them to have been the result either of bad recording or of later Muslim insertions (*28). Although no bent entrance is attested in the Muslim architecture of North Africa before the Fatimid period (*29), two late sixth-century examples have been identified in the Byzantine forts of Anastasiana and Tignica. This need not impair Creswell's thesis that the bent entrances

V.

of al-Mansūr's Baghdād (762) owed nothing to Byzantine prototypes, though it would appear to validate once again Deschamps's idea that it was from Byzantium rather than from Islam that the Crusaders inherited the technique (*30).

There is finally the question of the origin of the medieval tower-keep or donjon. I have already given my reasons for rejecting the idea of Diehl and others that this should be sought in the Byzantine **πυργοδόστειλλον**; archaeology and Procopius suggest that **πυργοδόστειλλα** were simply towers, flanking a line of defence, that were built larger than usual (*31). Byzantine town defences in Africa and elsewhere did indeed sometimes include a single tower, that was larger than the others. At Zenobia, for example, one such tower contained the praetorium of the town garrison, and the same function may perhaps have been performed by others at Vaga and Bordj Hallal in Africa (*32). To represent towers of this kind as the prototypes for the medieval donjon, however, would seem unwarranted. The twelfth-century donjons built in Latin Syria and in the west represented the fortified residences of the lord and his immediate entourage. If late antique prototypes must be sought for them, more plausible candidates could be found in the fifth- and sixth-century tower-houses of northern Syria, which served the domestic needs of the owner as well as his defence (*33).

