The influence of the Crusades on European military architecture — to the end of the XII th Century.

T. E. Lawrence
Jesus College

Scheme.

i. References
ii. Map.
iii. apology for the work, and objection to "secondary" criticism.

1-5. A preliminary: to set forth Oman's view, and to suggest the lines on which I will work

5-17. Military Architecture in Europe before the First Crusade
- i. Romans in the later Empire
- ii. Goths and others.
- iii. Earthworks of all sorts.
- iv. Norman keeps

This is to show what equipment in military architecture the Crusaders took with them to the East.

18-24. Byzantine military architecture
This to show what was the form which they first encountered in the East: the characteristic style of Constantinople and all Asia Minor and Antioch. The central and southern portions of Syria had no elaborate defences of the Byzantine epoch.

25-55. The architecture of the Crusaders in Syria
- i. Their borrowing of Byzantine castles in Antioch and Edessa
- ii. Their keeps: the first buildings they put up in Syria, and of typically Norman spirit.
- iii. a transition period in which the clash of home and Greek styles gradually resulted in the formation of
- iv. The rival styles [of the Templars — Greek
  [of the Hospitallers — French

56-66. Military Architecture in Europe in the twelfth century.
- i. Various developments and modifications of the square keep.
- ii. The gradual substitution of the "keepless" castle: — the sort often but unnecessarily called "concentric"

Rey.

Violet-

Diehl.

Allcroft.

The Art o

-ment of

Plans hav

are mentio

Banias, (

Howa), Ha

by himsel

remaining

The spelling
Ly on Tabe
In quoting p
not the Tran
after the figures
Violently
peace. 9

Explanation of the references in the notes.

Rey. L'Architecture militaire des Croisés en Syrie, par E.G. Rey: (in the Collection des documents inédits sur l'histoire de France.) Paris, 1871.

Viollet-le-Duc. Military Architecture, by Viollet-le-Duc: translated from his article in the Dictionnaire Raisonné, by Macdermot. Oxford, 1879.

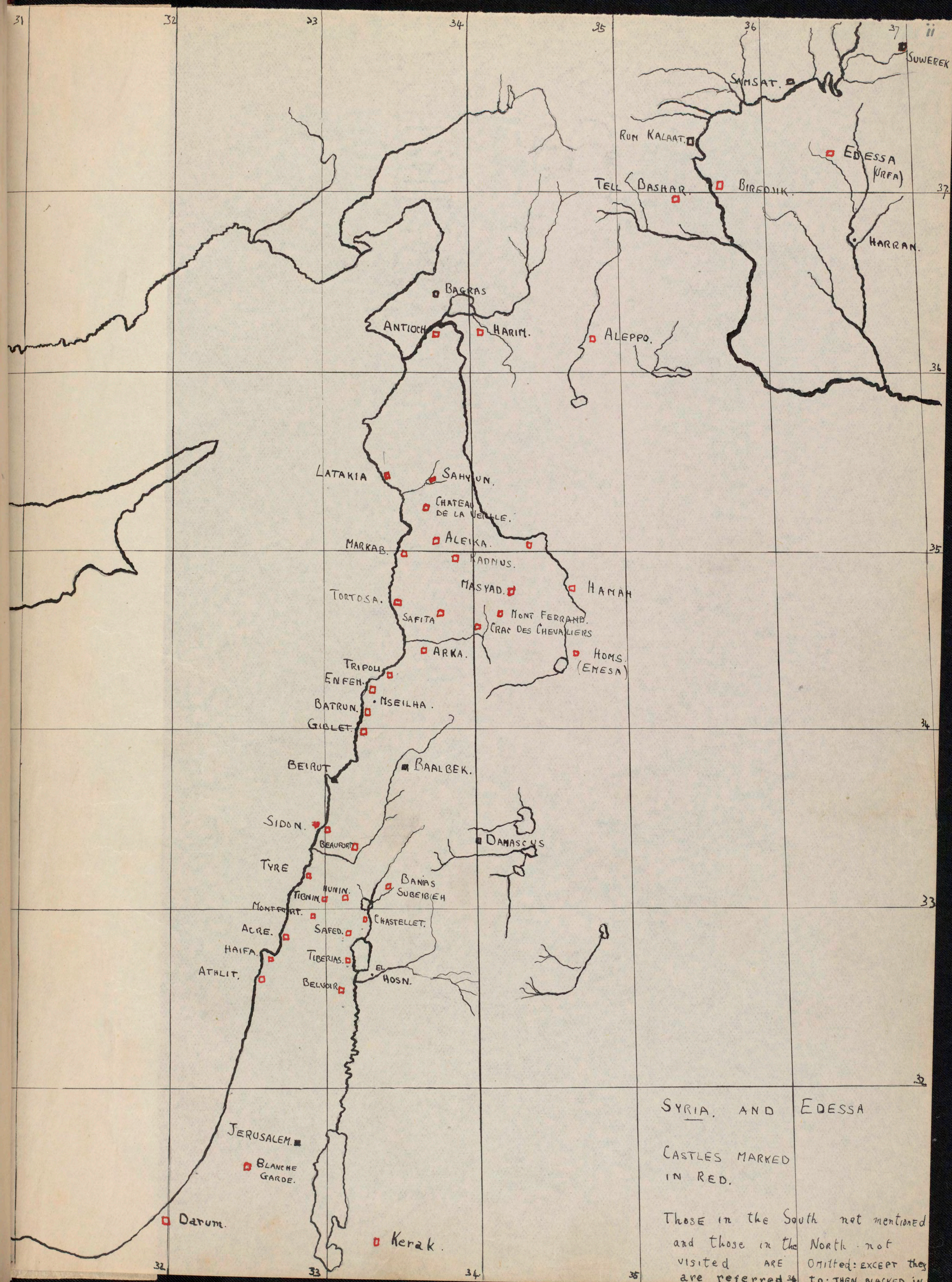
Diehl. L'Afrique Byzantine: la domination byzantine en Afrique par C. Diehl. Paris, 1896.

Allcroft. Earthworks of England, by Hadrian Allcroft. London, 1908.

The Art of War in the Middle Ages, by C.W.C. Oman, contains a state--ment of the generally accepted position: (cp. Bk. VI: chap. vii.)

Plans have been taken from these and other published sources, which are mentioned. I am indebted to Mr. Pirie-Gordon for the plans of Banias, (an exceptionally fine plan), Hunin, Belvoir (Kaukab el Howa), Harim, Antioch, Areimeh, and Kafr-lam, all of which were made by himself in Syria in 1908, and are at present unpublished. The remaining plans are my own work.

The spelling of Arabic names usually is French or German, according to the source from which they are taken. Some are my own.
In quoting places for the first time the name is spelt first in the common European form (if one exists). If not the French name from some original authority is given, with the present Arabic ~~after~~ following. After the first appearance the place may be called by any of its names.
Violently controversial points are usually settled by a plain assertion for simplicity and peace. If they are of importance in my argument they may be discussed.



SYRIA. AND EDESSA

CASTLES MARKED IN RED.

Those in the South not mentioned and those in the North not visited ARE Omitted: EXCEPT they are referred to: THEN BLACKED IN.

I.

Apology for dullness

Any consideration of the influence of Levantine mili--tary architecture on that of the West must almost of nec--essity be minute and technical; and any such enquiry must obviously be based on first-hand study of the actual rem--ains of 12th. century castles in Syria and Europe.(i) A few of the castles in the East have been adequately described with plans and illustrations, but beyond these there are many, often of equal importance, of which details have never been published; and the sites of some, which figure in history, remain unidentified in the riot of hills fill--ing up Syria between Antioch and Nazareth. Reference is here made to some forty Crusading castles, including, for the 12th. century, nearly all those in the East. The mat--erials for the 13th. century in Armenia and the Greek is--lands are almost entirely unworked; there has, as a matter of fact, been practically no exhaustive study even of the castles of that period in Europe.

Don't criticise?

(i). The Byzantine castles in Northern Africa are described from Diehl, "L'Europe byzantine". Except for this, no castle has been mentioned, unless personally visited. This will account for the omission of a few well-known 12th. century castles, such as Kerak or Grignols.

!?

i.e. absence of woodcuts, but all this is supposed to explain Dante's neutrality

(a).

II.

!? The classical view of the subject may be summed up in the statement that "the Western builders were for many years timid copyists of the crusading architects."(i). The idea is that the Franks marched east with hardly any under--standing of fortifications more elaborate than earthworks; and that in their passage through Roumelia and Asia Minor they were so dazzled with the architectural genius of the Greeks that they laid aside their rudimentary ideas of def--ensive work in favour of a wholesale parody of the castles of the Eastern Empire, "learning everything and forgetting nothing." Their supreme contempt for the light-armed Greeks, who could not, or at least did not, wear the heavy armour of the Frankish knights, -until Manuel Comnenus beat them on their own ground, - enabled them to appreciate the assistance lent the weaklings by fortresses in their pro--longed resistance against attack on three sides. And having thus turned their attention to the military archi--tecture of the Byzantines, they soon discovered its pecu--liar suitability to the conditions of eastern warfare. The Crusaders, therefore, copied the Greeks, whom they

i.e. absence of woodwork: but all this is supposed to explain Oman's mentality

---

(i). Oman, "Art of War," p. 532.

all this
Oman

This is
most strong

My reader

despised; and the precarious situation of the Latin King--dom made it the more necessary that means should be found, as in the Eastern Empire, to restore the balance between defence and offence. In Europe in the same way it is said that all the excellencies of western castle building are due to the quickening instance of the later Greek Empire. Professor Oman quotes "outer wards and fore-works," .. with their "numerous and strong curtain-towers," (i) as borrowings from Byzantium. Another imported feature is the provision of flanking or covering fire for exposed points, with the general idea of "concentric" castles. Even Château Gail--lard, the masterpiece of Richard I, is supposed to have drawn the greater part of its excellencies from the East; sometimes it has been said that Syrian workmen were import--ed to build it; at least that Richard was incapable of it before his experience in Palestine.

all this Oman

This is Mrs Strong

On the other hand, examination of Crusading castles in Syria itself, and a comparison of them with contemporary castles in France, appear to lead to conclusions wholly different. It is obvious that in the early state of the Latin Kingdom, the period of the private feudatories, the castles erected in Syria were of a purely Western pattern. Later on the two great Orders developed rival styles, of

My view

(i). Oman, "Art of War," p.533.

which one, that of the Hospital, drew its inspiration from Europe, and the other, that of the Temple, from the Byzan--tine Empire. No castles of the Templar type were erected in France before the general adoption of the use of gun--powder. Castles of Byzantine characteristics, cited in standard works, date from the 15th. and 17th. centuries, when the Crusades were well-nigh forgotten, and the Syrian fortresses for two centuries and more in the hands of the Infidel. Unless nearly contemporary instances of borrowing of Byzantine principles can be found, the class--ical view can hardly be accepted; a mere transfer of some trifling detail need cause no surprise, for there was constant interchange between East and West. There was no important family in Southern France or Northern Italy which had not a younger branch in the Levant, and these younger branches died out so quickly that there was a continual traffic in the higher classes, concerned about material possessions, quite apart from the pilgrim-fervour of the rank and file.

and very few after!

Nor will it be enough to find curtain-towers and pro--vision for flanking fire, and outer wards, in French castles, and cry them up as Eastern features, without troub--ling to search for them as integral parts of Greek fort--resses; and to decide that Château Gaillard must have been inspired by the East, simply because it is superior to the

general style of European fortresses, without quoting para--llels in Syria, is hardly convincing.

Obviously, in Europe, France is the country chiefly to be considered. In the Middle Ages, she produced all that was best in Gothic art. Italy flowered later, after the downfall of mediaeval culture, and in the 12th. and 13th. centuries, Germany also was barbarous in art, and had chivalry by no means equal to that of the Western kingdoms. From France and England came all mediaeval masterpieces in literature and architecture; Italy had a hybrid civilisa--tion, much more tinged than that of France with Greek and Saracen influences, and apparently her style of fortifica--tion shows distinct Byzantine feeling.

I haven't been there yet...

By putting side by side the development in fortifica--tion of Western Europe and that of the Eastern Empire to the beginning of the 12th. century, it should be possible to distinguish the debt owed respectively to each by Syrian architects, and a comparison of the essentials in style of a large number of Syrian castles will show their contrast with the principles in fashion in Europe at the same period. To consider the question with a knowledge of only one or two is not sufficient. The buildings of the three ~~contur--ies~~ countries are equally distinct and equally important; and many

i.e. this explains the exclusion of the chaps. on Earthworks and Greek castles

This is partly for Reg: he does not know French architecture

of the vague present-day theories are generalisations on insufficient material, simply through non-recognition of this fact.

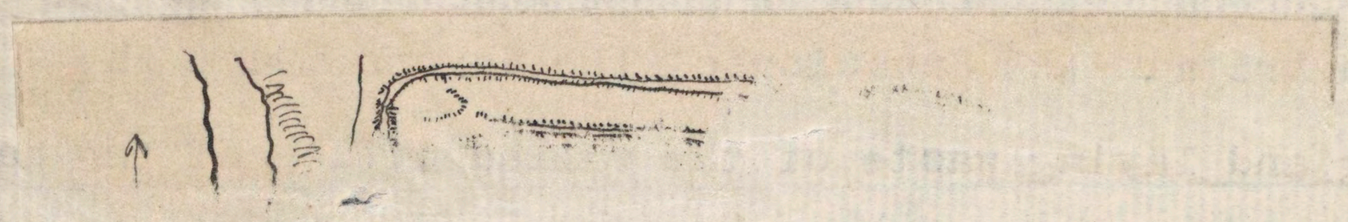
MILITARY ARCHITECTURE in EUROPE before the FIRST CRUSADE

III.

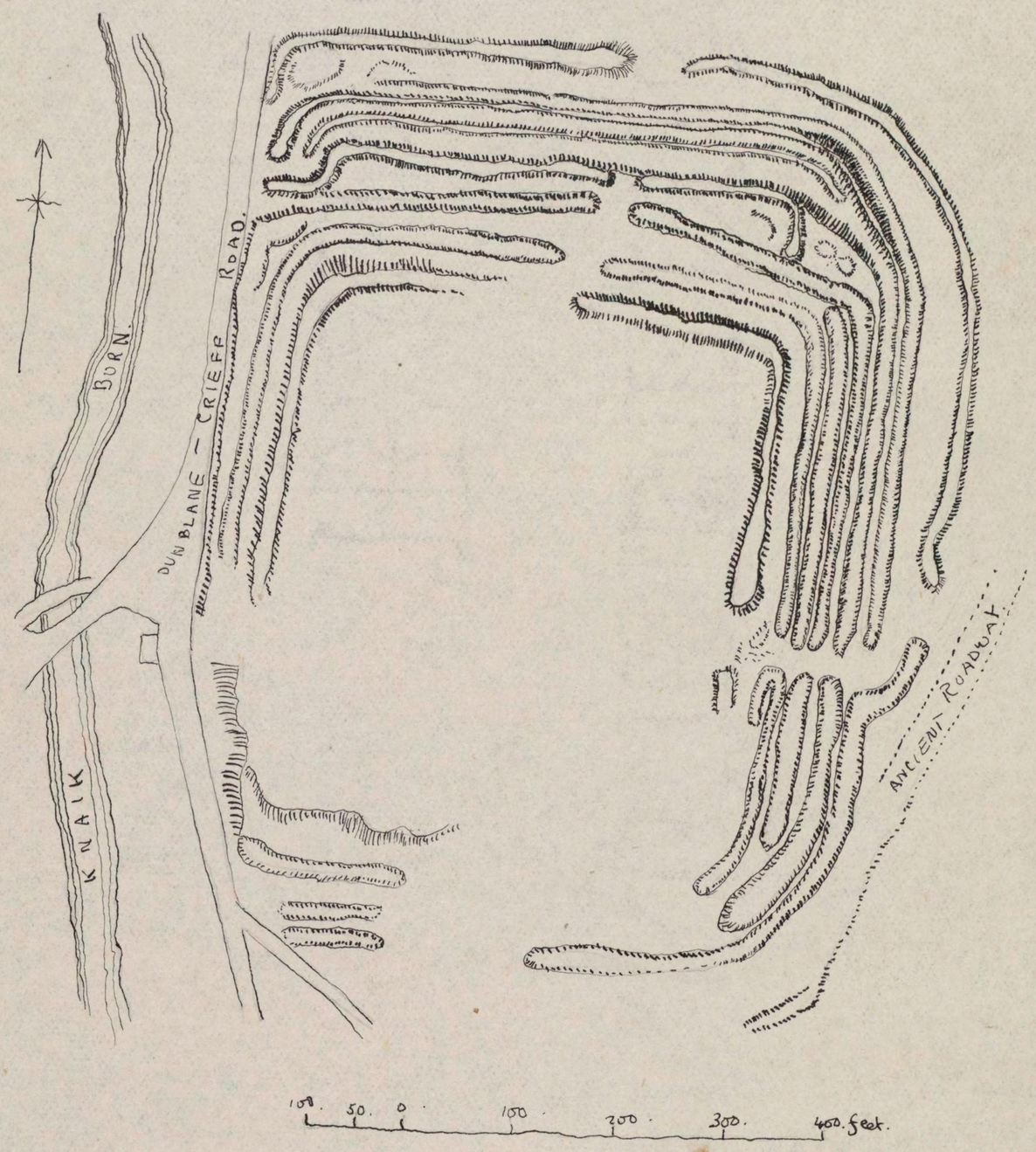
In Britain the invasion of the Saxons meant the burning and laying waste of the walled cities of the half-Romanised inhabitants. The Saxons had a horror of living within stone walls ; and examples such as the sack of Anderida quite well account for their peopling ~~the cities~~ their sites in imagination with devils. In Gaul, on the other hand, the collapse of the Roman Empire was before barbarians, who had for generations served in her armies, and whose great ambition was to adopt her customs, and manners, and titles. Therefore they preserved her public buildings, and the Gallo-Roman population lived as before within their towns.

The more important Roman stations in Gaul had been carefully stone-walled, usually on a rectangular plan, the translation in stone of the earth mounds of their entrench-ed camps. The mason work was of grouted rubble, ashlar-faced, built in sections, with at intervals (generally rather long intervals) half-round curtain towers set upon them. Sometimes a double wall was built, and the interval packed with earth, to the level of the top of the inner wall. The outer one would then form a parapet, as at Toulouse. The curtain towers were generally quite small in diameter, and projected only a true semi-circle beyond the wall. At times their bases would be rectangular, (Plan No. 4)

"built in sections". This is why Roman walls crack every 40 yards e.g. Pevensey.



1.



ARDOCH

PERTHSHIRE.

ALLCROFT.
h. 331.

I.

A Roman station with six banks.

only very rarely were they rectangular themselves. The gates were flanked by semi-round towers, upon occasion, as at Richborough, but they are rarely so symmetrical. In Britain the Colchester type of gate is a common one: abroad often they were hardly defended at all. (May have been outworks) Before the walls was usually a ditch of some depth and width : in exposed camps in Britain are found half a dozen ditches, with breastworks, probably palisaded, lining them.

As at Ardoch

To judge from the account of the 13th century siege of Carcassonne there had, there, been more than one line of concentric Roman wall, but as a rule the one lofty stone wall and ditch were sufficient ward against the uncivilised enemies, without siege trains or settled discipline, with which Rome had to deal : the greater part of the forts were only sure bases on a frontier, from which her troops could carry out the vigorous offensive which was her defence. The majority of the town walls in the interior of France date from the times of the later empire, and that they were put up in haste is shown by the choice of material in their construction. The walls of Narbonne, Tours, Auxerre, Orleans, have been worked in modern times as a quarry of fragments of frieze, cippi, and capitals of columns.

The account of Gregory of Tours leaves no doubt that

2.

Markab, looking E, on the Southern face. A sort of beehive underneath is a sheikh's tomb: the steps of the entry are about 18 ins. high

CARTE POSTALE

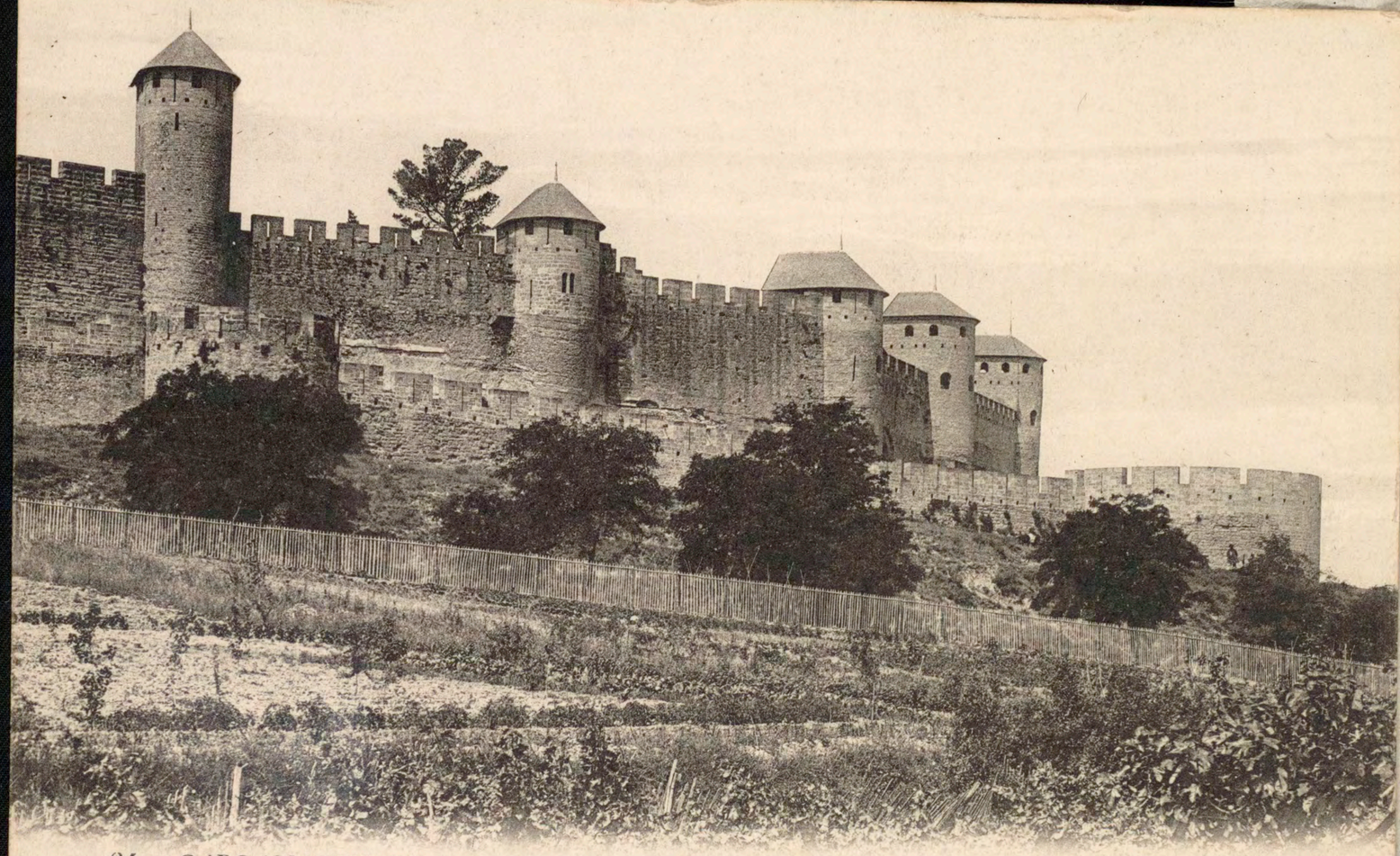
Tous les Pays étrangers n'acceptent pas la Correspondance au recto.
(Se renseigner à la Poste).

CORRESPONDANCE

5 Visigothic Towers

ADRESSE

C. Enlart



34 CARCASSONNE (Cité). — Les Remparts extérieurs au Nord. — LL.

& Visigothic towers. (restored)

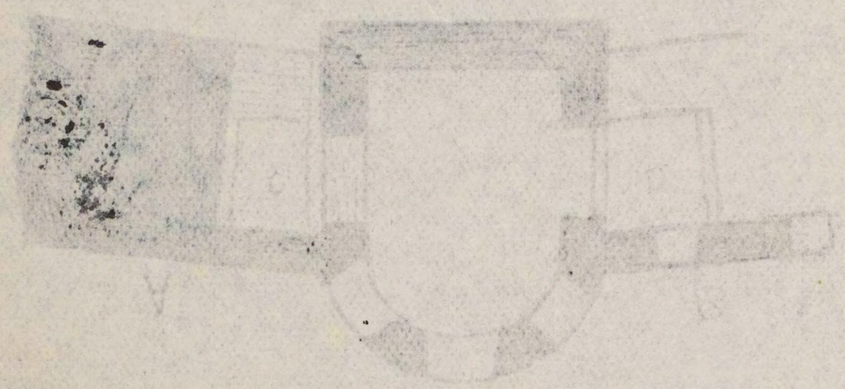
they were maintained by their (later) inhabitants in a fit state of defence. Describing the city of Dijon he says that it was "a fortress with very strong walls, lying in the midst of a very fertile plain . . . . . On the south lies the river Oscara (Ouche) on the north another small stream, which enters in at one gate, and, passing under a bridge, goes out through another gate, tracing its sluggish course round the whole circuit of the walls . . . There are four gates towards the four corners of the world and 33 towers adorn the walls. It is built of squared stones to the height of 20 feet, and above that with rubble. The height is 30 feet, and the thickness 15."(1)

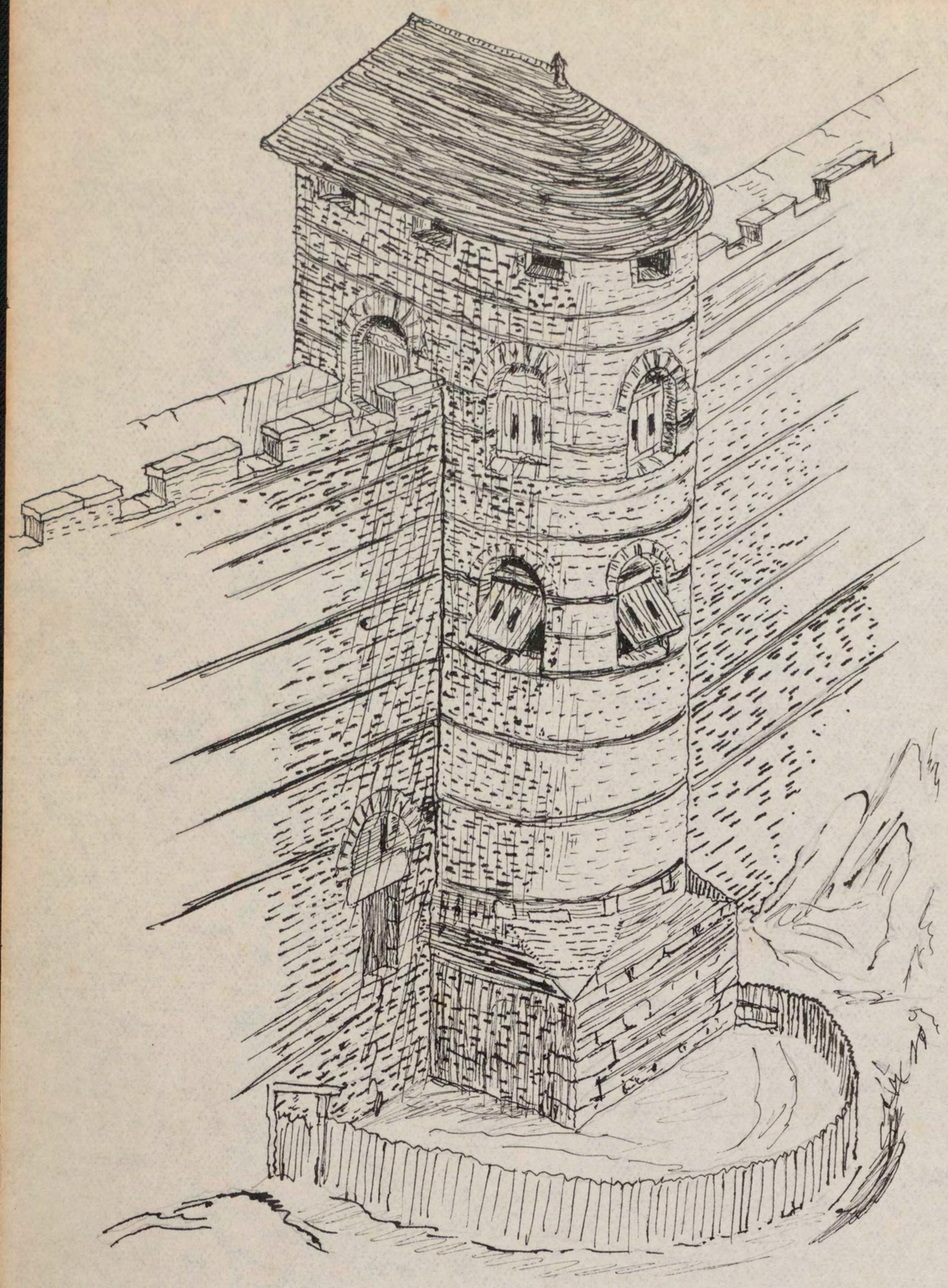
Gregory often mentions fortresses, and there are still standing parts of the very remarkable walls of Carcassonne where the Visigoths or their immediate successors rebuilt the Roman enceinte after the same plan, though of inferior material, on the old foundations.(2) Their work was done with such thoroughness that the city proved impregnable in the early part of the 13th century against the determined attacks of the Trencavel party — attacks supported with all the skill in siege craft known at the time, and in addition the most complicated scheme of mining on record. Even St. Louis and Philip the Fair, when remaking the place, had nothing to alter in these defences, except the

---

(1) Greg. Tours iii. 19, ed. Migne, Pat. 71, 250.

(2) One Roman tower is still standing near the Narbonne gate.





4.

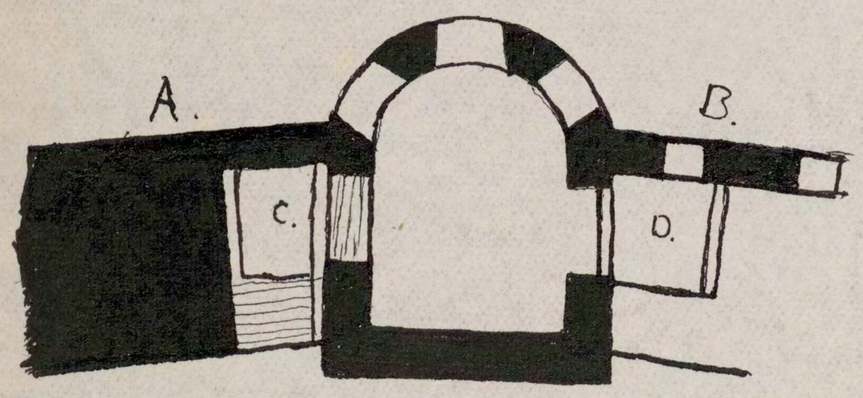
EXTERIOR OF TOWER IN VISIGOTHIC CARCASSONNE.

AS RESTORED BY VIOLLET-LE-DUC.

p. 12.

This tower, quite unusually, has two stories.

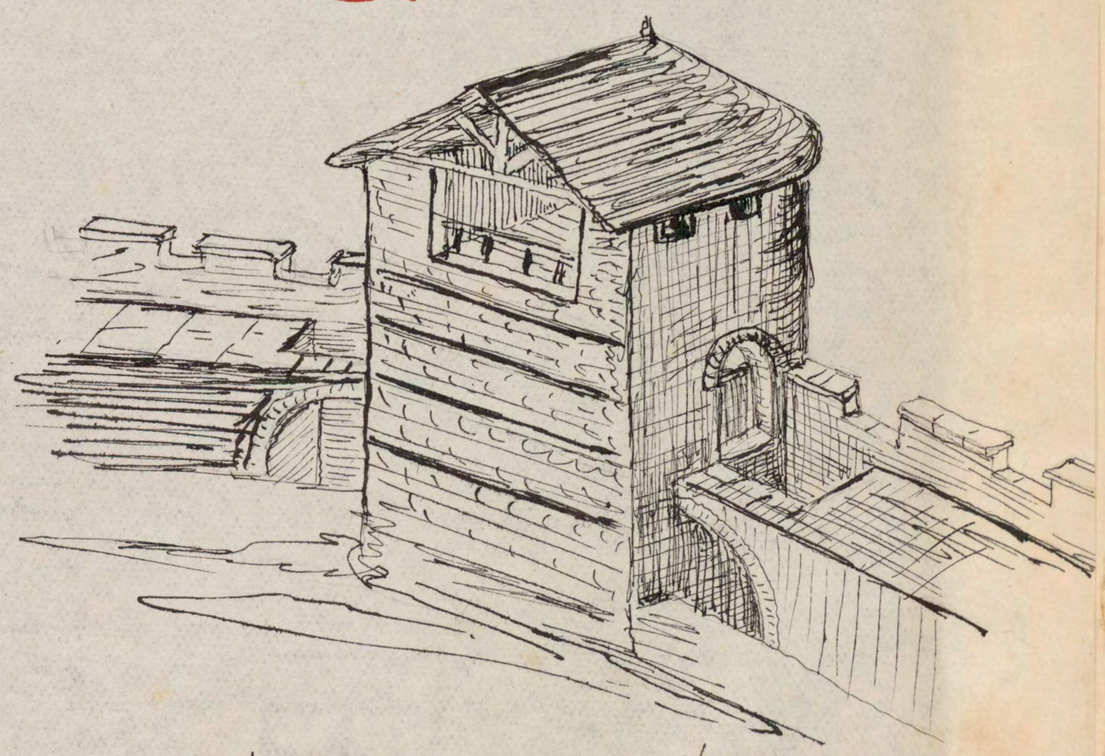
3.



PLAN OF THE TOWER.

A. GROUND - PLAN.
B. FIRST - FLOOR
C. } PITS UNDER DRAWBRIDGE.
D. }

V. LE DUC. p. 11.



INTERIOR OF VISIGOTHIC TOWER. SHOWING THE ISOLATED DOORS.

V. Le Duc p. 11.

This shows a double line of Roman or Visigoth walls

necessary repairs.(1) In the story of the siege mention is made of the "old Sarcenic [i.e. Roman] wall in the lists." This probably stood on the site of the present outer line of Philip the Fair, just as the 12th century castle itself, within all the walls, occupies what was undoubtedly the site of a Roman citadel, or the "military quarter" of the town. (Plan 5)

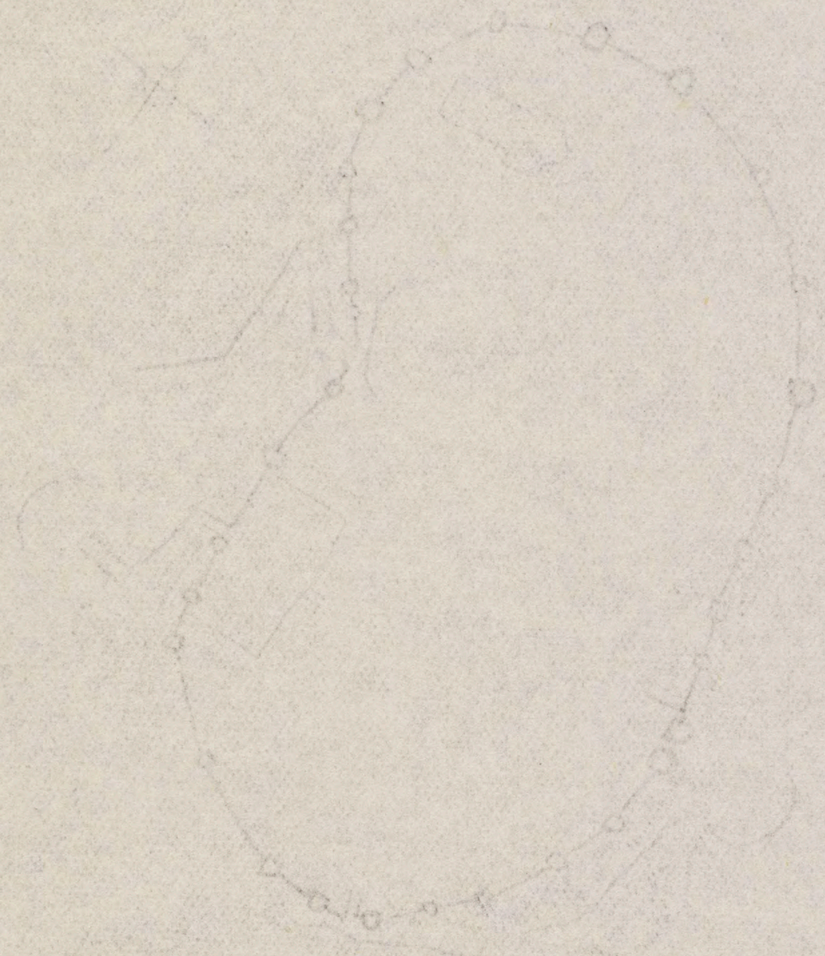
This might be a little expanded. It is of some importance

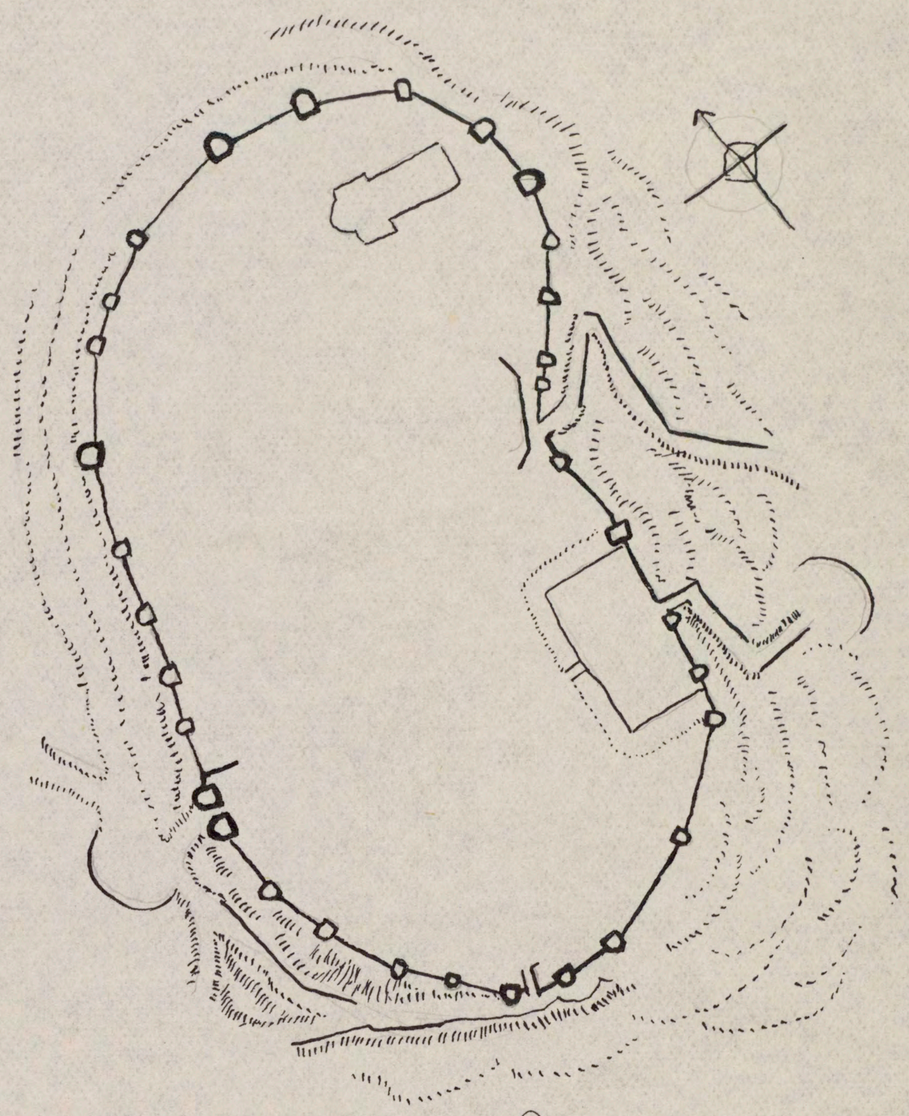
If the Visigothic city of Carcassonne cannot be called concentric, it is only because there never were any concentric castles, except here and there by accident. The aim in the mind of every architect of the smallest intelligence was to find such a site for his building that the waste and weakness of equal accessibility on all sides might be avoided : then he could multiply defences on the one weak face alone. And this he did in all ages, from the earliest earthworks to the latest fort before the in--troduction of siege cannon.

The Roman, and of course the Visigothic, towers of Carcassonne are solid to a height of nearly forty feet : (e.g. plan 4.) the idea of loopholes, whose narrowness makes hollow towers nearly as secure as solid, does not seem to have occurred to classical architects. The openings at the top (and in the room under it in some towers) are

---

(1) The honour of improvement was reserved for Napoleon III and his architect Viollet-le-Duc who rebuilt some of them on what they imagined to be the original plan.





VISIGOTHIC CARCASSONNE

V. LE DUC.
p. 17.

5.

large and square, to be closed with heavy hinged louvre-boards or shutters against arrows or stones from outside.

These shutters were used, till machicoulis were invented, on the merlons of the parapet. Some of the towers stand on square bases (Plan 4.) of the height of some eight feet : and each tower was cut off from the chemin de ronde of its curtain by a gap which could be filled in peace time with a movable bridge (Plan 3.) The little door of entry was also strongly barred, and so the towers are, if necessary, a series of independent fortresses. If their small size made them worthless as a last resort, at least they were effectual barriers against surprise : and they gave moral support to their defenders, who were freed from the necessity of guarding their flank and rear. It is calculated that there must have been rather more than 30 such towers in the wall of Carcassonne.

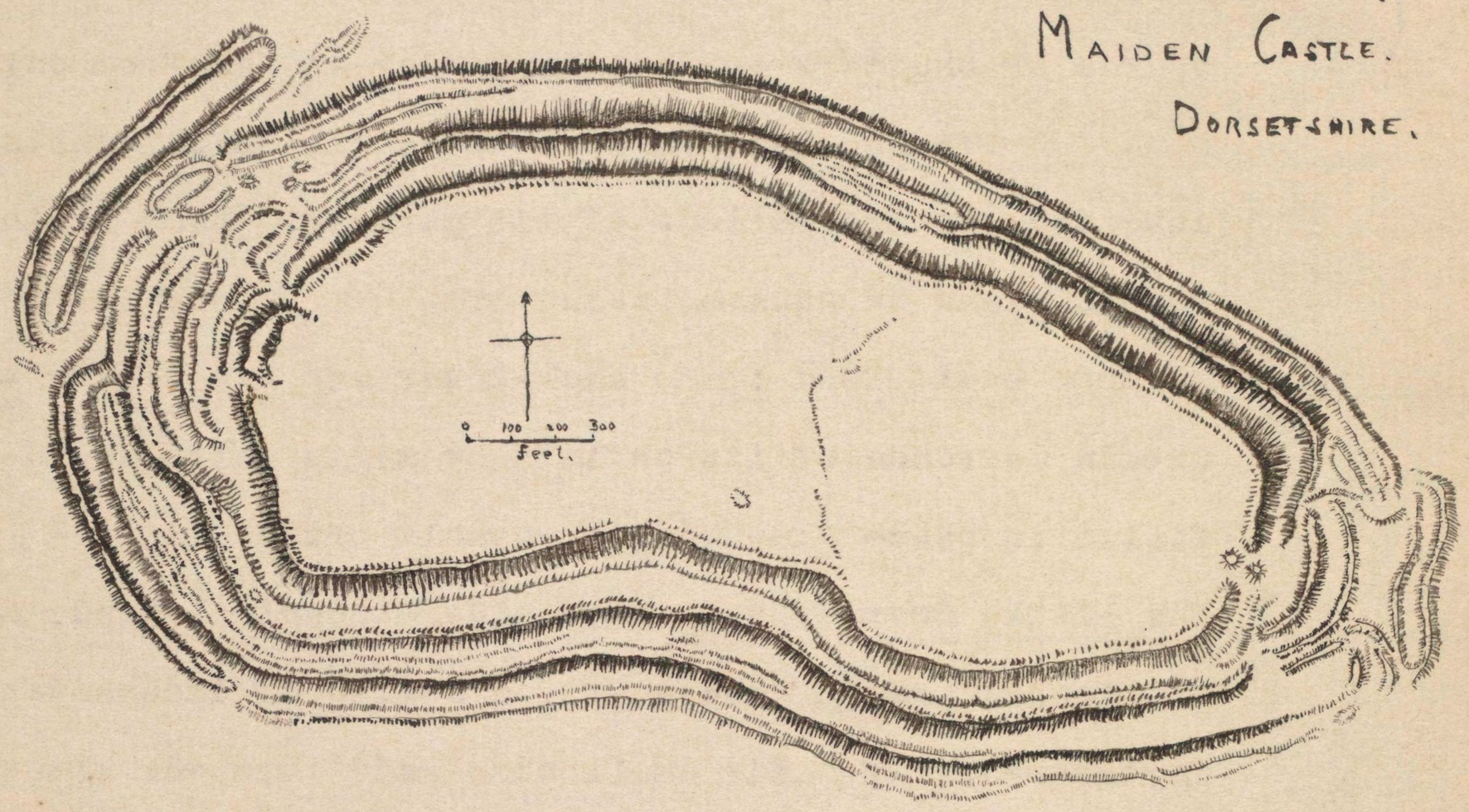
c.f. Plan 38 Sajita. XIIth Cat

A tradition of castle-building in stone existed in other parts of Europe also. In Germany Nicetius of Trier built a castle with thirty towers for the protection and oppression of his people, and in Italy there were many stone castles new-built, and more adapted from Roman edifices of some sort. Yet probably as a general rule these may be considered as grand exceptions. The ordinary fortress of the Dark Ages, indeed down to the middle of the 11th century, was a mound or hill-ditch cut in the soil,

6.

MAIDEN CASTLE.

DORSETSHIRE.



Allcroft.

p. 101.

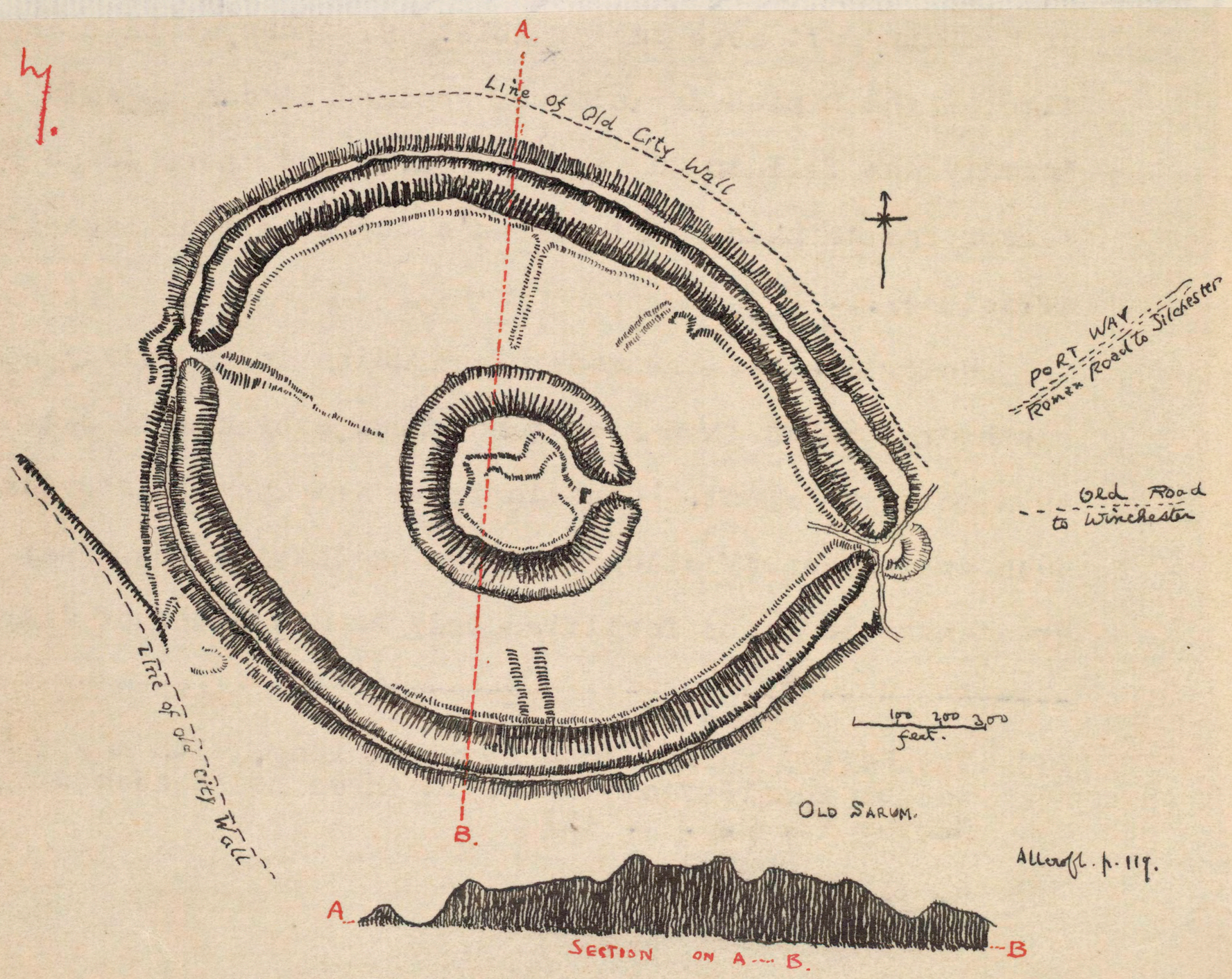
with nothing heavier than a palisade of tree-trunks on the top. Incursions such as those of the Northmen, were in the ninth century the most compelling cause of castle-building. and such hurried raids were better met by earthworks than by the most scientifically planned structure in masonry. Even unskilled workmen could throw up a defensible fortress in a few days (1), and an earthwork is by no means a thing to be lightly contemned. Caesar had to proceed against one in Britain in most formal fashion, by testudo and agger, (2) and naturally against assailants of the same quality as the defenders such fortresses as Maiden Castle, (Plan 6) or Hembury fort were impregnable. Of those of as late as the time of the Danish invasion of England it can be said "hardly one fell in 20 years of war," and there is no reason for thinking that Alfred's burhs were of exceptional efficiency.

Unfortunately the modern confusion in the study of earthworks makes them almost hopeless subjects to date or even to argue about. Certain facts are known historically, such as the construction of burgs by Charles the Great in great numbers ; the fortified bridges and camps of Charles

---

(1) The Nervii built lines 15 miles long, with a 9 foot vallum and 15 foot ditch, in three hours according to Caesar (d. B.G. V. 42)

(2) d. B.G. V. 9.

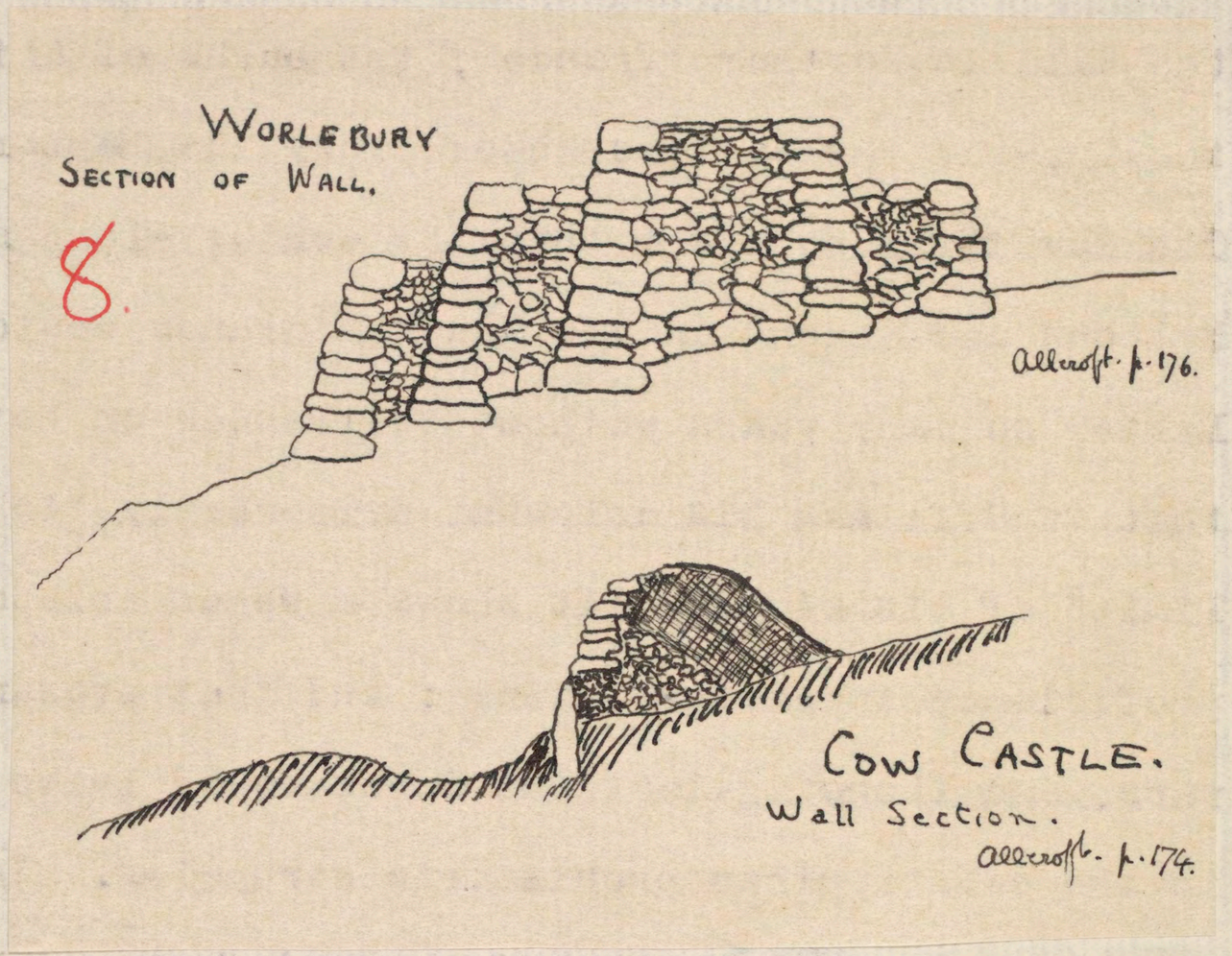

A.
Line of Old City Wall
PORT WAY
Roman Road to Silchester
Old Road to Winchester
100 200 300
feet.
Line of Old City Wall
B.
OLD SARUM.
Allcroft. p. 117.
A.
B.
SECTION ON A.... B.

the Bald in Northern France ; the burhs of Alfred and his family, and the earthworks of Henry the Fowler in Germany. One may infer others : that the century-long struggle of Britons and Saxons in the South Midlands could not have lasted so many years without fortresses on both sides : that if Offa made his colossal dyke merely "to mark the limit" of his kingdom, it shows a remarkable degree of proficiency in earth-working : and that presumably these wars, and those against the Danes would leave more trace in the country than prehistoric struggles. Yet none the less hardly a single one of these defence-works has been identified. The modern archaeologist has a weird fondness for identifying every "mount and bailey" fortress with Norman post-conquest work. The Normans were near of kin to the Danes, and settled in North France. If they brought their system of fortification from Scandinavia one would imagine it to be very like the Danish. If it was copied from that of North France then presumably it was also copied in England long before 1066. In either case it is far too sweeping to ascribe every mound and bailey work to Norman hands, especially as it gives them the absurd total of nearly 500 such forts in England and Wales : indeed it is but little short of a phenomenon to find Norman castles in the Snowdon range !

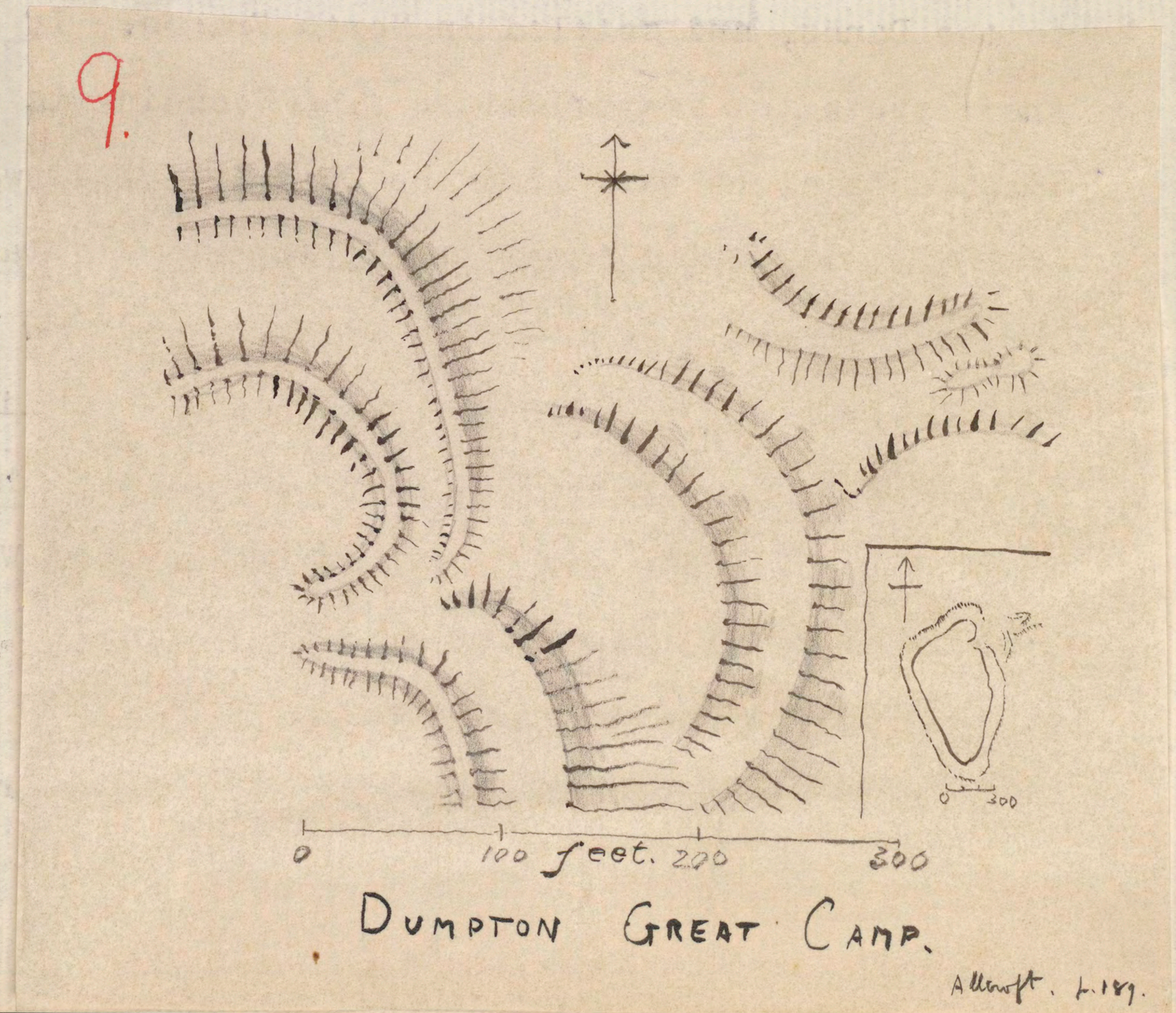
Also Ireland etc.

Earthworks are not always devoid of masonry. Great

8.


WORLEBURY
SECTION OF WALL.
Allcroft. p. 176.
COW CASTLE.
Wall Section.
Allcroft. p. 174.

9.


0
100 feet. 200
300
0 300
DUMPTON GREAT CAMP.
Allcroft. p. 189.

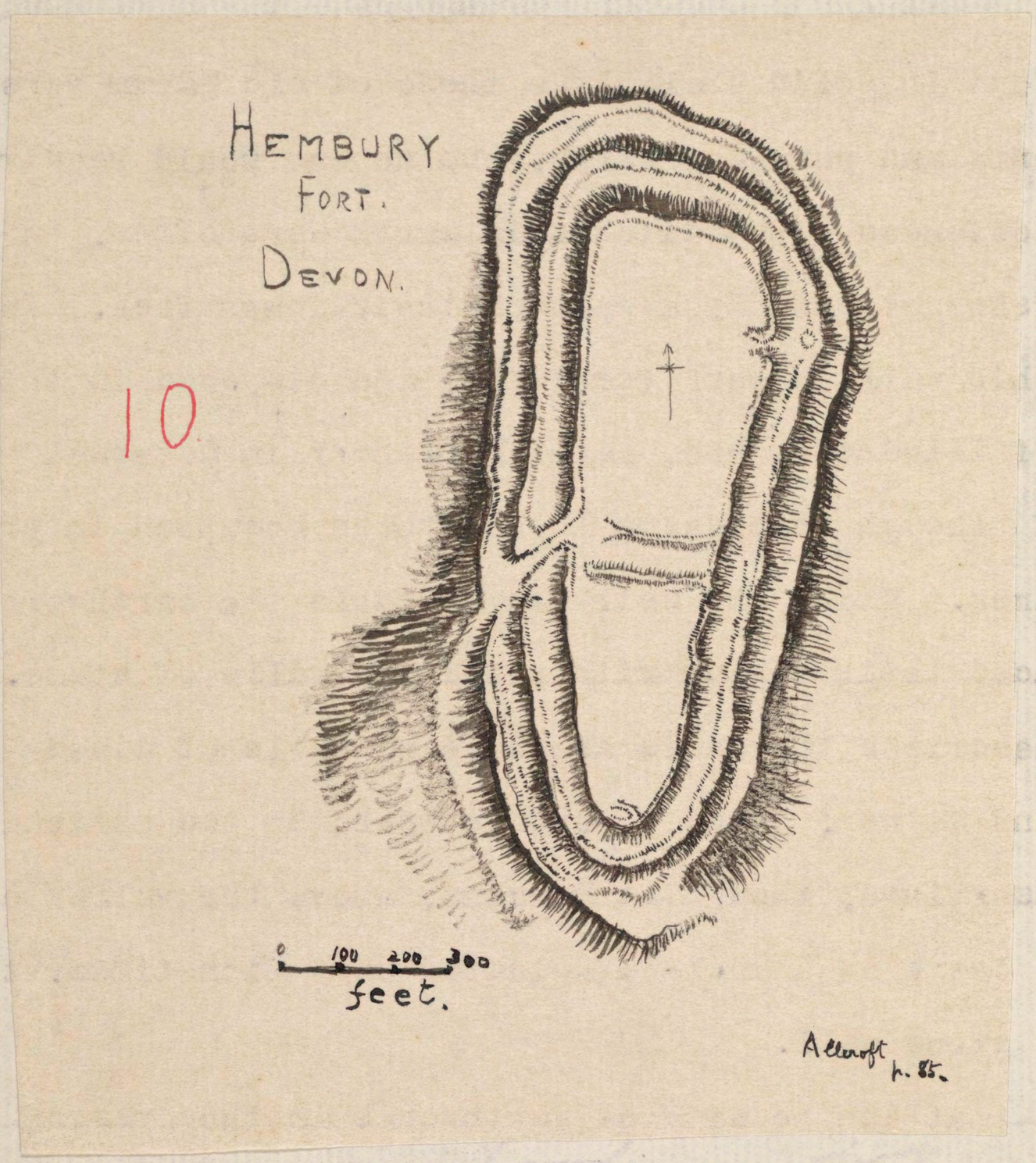
ditches cut in solid chalk like those of old Sarum (Plan 7) were to all intents and purposes walls, and no one would require further defences : but ditches in earth were often, in stony places, strengthened by a wall on their inner face. In places this wall is very formidable and disposed in the manner of Iliad XII. 258, as at Worlebury in Somerset (plan 8) though this seems to have been occupied in pre-Roman times. Where the soil was suitable the earthworkers often faced their vallum with retaining walls of stone. (Plan 8.) Caesar describes the Gauls as building walls of mixed timber and stone : these of course would be too perishable to have survived, though at Murcens, above the valley of the Lot, there is a much-dilapidated camp with timber ties in a dry stone wall.

Beyond Romans! The result of the recent excavations

A model of this at S. Germain a little restored

All that can be said of earthworks in the present state of our knowledge is that they all, almost without exception, show "concentric" plans. Old Sarum is almost a perfect example of a ring-fortress, (Plan 7) and it has probably no Norman (and certainly no Roman) earth-work in it, while at Maiden Castle in Dorchester (Plan 6) there ~~is~~ are in one part no less than 8 lines of defence, one within the other. The gates of earth-camps are often fortified with almost trivial elaboration, as at Dumpton: (Plan 9) and in a great camp in Devon, at Hembury near Honiton, (Plan 10)

In its plan that is: of course the masonry is later.


HEMBURY
FORT.
DEVON.
10
0 100 200 300
feet.
Allcroft p. 85.

there is at an angle a berm so disposed as to be practically an outwork. The presence of a small ditch across the centre of this camp almost persuades Allcroft to call it a Norman addition. If this were the case, then the entrance would also be Norman, for the transverse wall is a necessary part of its defence. One may reasonably consider the whole to be pre-Norman, and of one date.

(i.e. They are probably not prehistoric, but defences against raiders: Saxons Danes, etc.

English earthworks are not intended to stand long sieges : only seldom is there water within them. The finest are usually on bare chalk downs, since chalk was so easily worked, and yet so little friable. None the less they are of exceptional interest, as definite fore-runners of the multiple-castles of the thirteenth century. Their ground-plans, for efficiency of defence, have never been improved upon, and they are still extant in such numbers, and often on such a colossal scale, as to give a very high idea of the culture of their engineers. It was in all respects most unfortunate that the clumsy substitute of the imported Norman keep checked their development for nearly a century. The question as to the amount of skill in mason's work common in Western Europe between the ninth and the eleventh century is not very important. In Paris the inhabitants prepared stone walls and towers against the coming of the Northmen in 886, and a little later Alfred and Ethelfleda repaired the

Roman walls of London and Chester. There seems to have been a number of Roman enceintes defensible in England at this period, but no new complete circuits of walls were put up to our knowledge. At the Conquest probably Oxford and Exeter alone, of post-Roman towns, were stone-walled. Exeter is so referred to in 1067, and at Oxford there is still standing a church tower, half-defensive, with signs of communication by bridge with an outer wall. Its date must be within a few years of the Conquest, (and) (more probably) before (than after), (since) Earl Algar in the reign of the Confessor held houses in Oxford to which were attached duties of maintaining the wall in proper repair.

Too strong a Saxons were great builders: c.f. Malmesbury, which is IXth Cent. in the porches + sculptures

Certainly

and also

Not Algar only.

The Normans were not great workers in earth. Normandy has no camp to compare for a moment with Old Sarum : generally her mounds are insignificant, and when William threw up such places in England, as at York, the Saxons found their destruction a mere holiday task. To secure a palisaded camp against fire necessitated a broad berm, and a ditch of many men's labour. The Flemish model after which the Norman nobility had shaped ~~the~~ their own castles was a mound with a narrow ring ditch of such steepness that it had to be crossed by a timbered bridge (c.f. Bayeux tapestry) Castle Rising is an English example.

Argues being an exception.

The typical form of castle associated with the Norman is, however, of course the famous square keep. It is hardly possible to give the Normans credit for its invention. They were not an original race, or rather their originality was

shown in the readiness with which they borrowed or adapted the arts, and language, and literature of their neighbours. It would be more natural to find progress in architecture in the tenth century proceeding (e.g.) from Provence, where the little Romanesque keep of Les Baux may quite possibly be older than the keeps of Normandy. Also it has been suggested that in Maine are examples which must be placed before any built by the Normans themselves : a very early keep still exists at Langeais behind the monstrous chateau of the 15th century. There can however be no doubt that the keep took its final shape under the hands of William the Conqueror, whose White Tower in London set the fashion, and became the model for rather more than 50 keeps in England, and nearly as many in Northern France. It is perfectly evident that the Tower of London is not the first of its kind ; it is too certain in all its details to be an experiment, but the castle at Rouen, from which it is sometimes supposed to have been copied,has conveniently disappeared, and in Normandy the two or three specimens which might possibly be pre-conquest are very poor and uninteresting.(1) Probably Duke William discouraged the building of keeps by his nobles as far as possible, until the conquest of England laid open a huge field for the activity of every Norman architect and man at arms.

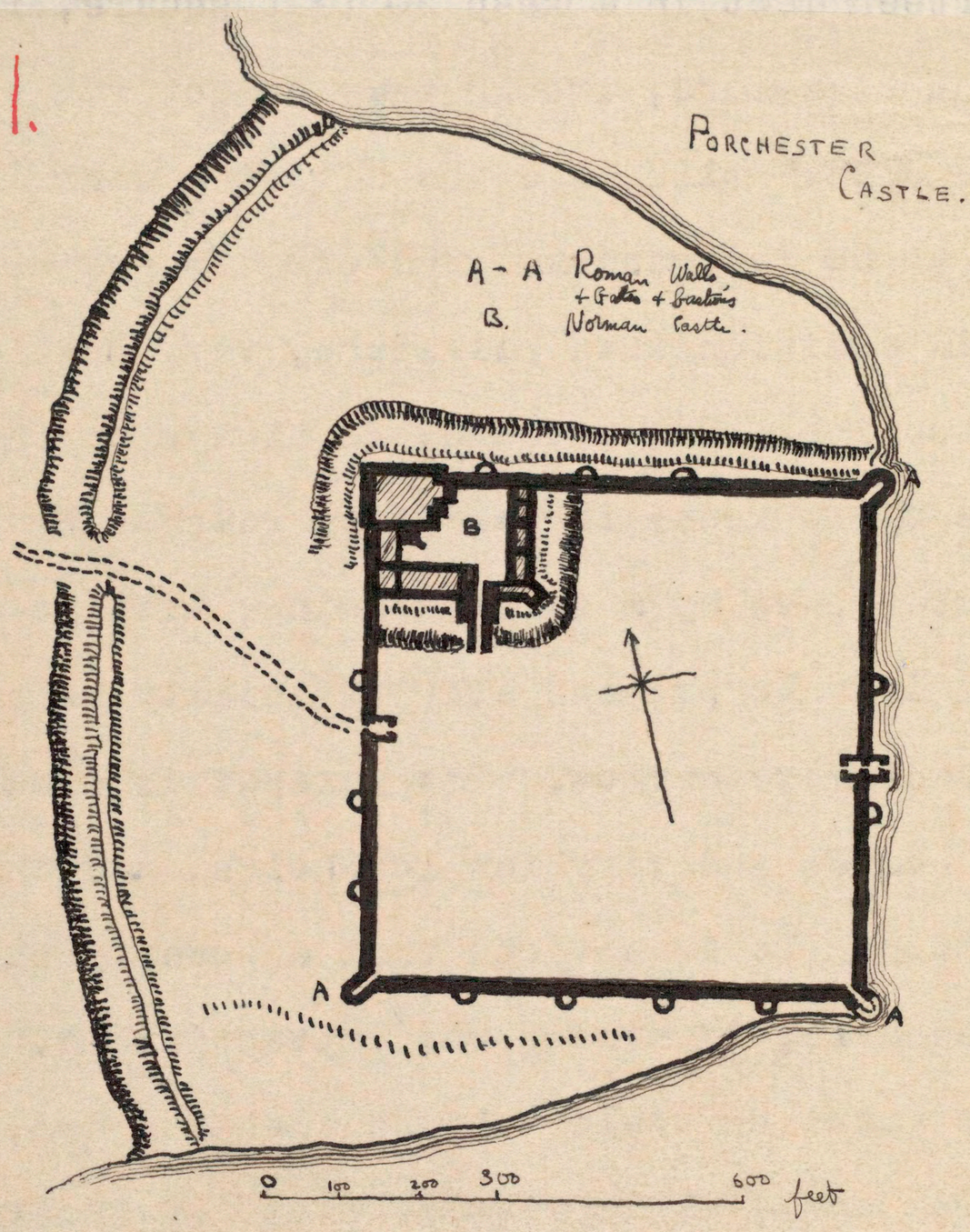
---

(1) They are figured in De Caumont's Abécédaire d'Archéologie, pp. 308 - 310.

The appearance and arrangement of these keeps are too well known to need illustration. Of course their great principle is passive defence, and to secure it they were built more solid-ly than almost any building before or since. At Newcastle the lower fourteen feet, in a keep 90 feet square, is solid throughout, and elsewhere, though they do not run to this ex-treme, yet the outer walls, and the dividing wall may be any-thing from 15 to 20 feet thick. The corners are usually strengthened in addition with pilasters, very shallow but-tresses in intention. The entrance is always on the first floor : in the early keeps it was often reached by a wooden ladder : in later ones by a fore-building, with at times a draw-bridge in it. To prevent all possibility of surprise, the door-way was made very narrow. The parapet is usually plain, there were no hoards and very few loopholes, and the portcullis is nearly unknown. It is obvious that a tower such as this would be impregnable, if mining was impracticable. On the other hand its garrison could only be a scanty one, and once in the keep they could be imprisoned most hopelessly, by a very small force. "A keep could be defended by one man" - per-haps - but it could certainly be besieged by two, standing one each side of the doorway to prevent egress. There were never any covering works, from which a flanking fire could be main-tained, and a sally in any force would be dangerous, owing to the impossibility of retreat in haste.

I'll just at the end.

11.



Allen Sc. 414.

The Norman keep was thus rather an ineffective fortress ; it could be mined with the greatest ease, as King John proved at Rochester, and it provided little accommodation. Apparently its builders felt its defects, for they never allowed a keep to stand alone. Sometimes it is within a Roman wall, as at Porchester (Plan 11) and Pevensey, more often there was a ring wall drawn around it as at Ludlow : and this wall was of course provided with curtain towers. Other keeps have only earthworks older or contemporary and once no doubt palisaded, for their outer defence. Usually they stand on the strongest point of the castle, but sometimes, as at Richmond, they are so placed as to defend the weakest part of the outer wall. In either case these outworks are seldom elaborate enough to stand the determined attack of a considerable force. The square keep is an ideal defence against a border raid, and in the North of England it survived in this purpose in the peel-towers to the 16th century : but against an enemy with leisure, or sufficient resources to drive a mine, the reduction of such a castle was only a question of time. The form probably only remained in favour for a very brief period, but this included the years in which the first Crusaders went out to Palestine. One may determine therefore with reasonable certainty that Normans and Provençals alike were accustomed to build castles of a square keep and a curtain wall with towers around it : only in the Norman castles greater stress was laid on the keep, and in the Provençal on the curtain wall.

Am not sure about Ludlow: but there are heaps of other examples

BYZANTINE MILITARY ARCHITECTURE.

IV.

Justinian's military architecture had begun in that of old Rome, in imitation of the wonderful system of Roman fortresses in Mauretania. In that province the Romans had had in some way the position of the later Byzantines : ordinarily their defensive works were slight, - little more than walled castra, along a frontier - but in Mauretania they were a small garrison holding a difficult country against an enemy that attacked continuously and unexpectedly, though without any very great knowledge of war. So the Roman forts there were erected on the best strategical positions, or across the great military roads, or next to some town to provide a refuge against sudden incursions : and when the Byzantines under Justinian fortified their empire systematically they followed the same plan. Their buildings may be divided into fortified towns, refuge camps, castles properly so called, single towers to defend isolated farms, and signal posts. A close network of these was erected up the Euphrates and in Asia Minor, on the Danube, and throughout Northern Africa, hundreds of them in the comparatively short period of the reign of Justinian. After him Byzantine architecture stood almost still : no one has yet been able to distinguish later Byzantine repairs and additions amongst the original works of some "Justinian" castle : the Greeks were so obsessed with the excellencies of his work, so bound by the precepts of Procopius and of the author of the Tactica who

Too strong: also no one has tried to. In any case the statement only refers to the plan: the masonry became steadily worse with time.

They are falling down Chessa

fol
gre
Nic
of
he
sho
pre
the
for
unal
som
Pro
mil
sys
bas
sma
the
ity
on
the
dat
an
de
(2

Hardly not much general.

followed him, that they made hardly any improvements. The great fortresses which the Crusaders came upon in their march, Nicaea, Antioch, Edessa, are standing to-day perfect examples of the style developed by the Emperor, and the architects whom he instructed.

They are pulling down Edessa

Constantinople of course was in theory earlier ; but it shows how nearly allied was Justinian's work with that of his predecessors. There is, however, very little variation in the Emperor's plans. He was a pedant, and laid down for his fortresses exact rules which his lieutenants were generally unable to refuse, except in cases of exceptional haste or on some unimportant occasion. Save for such buildings, we find Procopius' instructions excellently well illustrated in Greek military engineering. First of all it departed from the Roman system of a line of camps at intervals along a frontier, as bases for a vigorous offensive. Justinian (1) ordered a line of small strongholds along the frontier, much more closely placed than were the Roman camps, but of less size, and weaker quality. Their efficiency deterred the private raider, the artist on a small scale, sufficiently well. Against a strong attack they were only to serve as signal posts, and as outposts, to delay the enemy a day or two, until the people of the province and their goods had been gathered within the second line of defence. This was composed of central citadels, erected as

quality not much of a word.

---

(1) Proc. de Aed. p. 268, ed. Bonn.

refuges wherever population warranted. The army likewise stood on the defensive until these refuges were occupied : and then the enemy, distracted by the number of their potential sieges, and the hollowness of their occupation of the country, were easily driven out : more especially as by their fire signals the Greeks were able to exchange information, or to concentrate at a speed that was disconcerting to the most active of invaders.

The buildings themselves, according to Procopius,(1) were to have three lines of defence. First would be the ἀντιτειχισμα a mound piled up of the earth taken out when cutting the ditch within it. The ditch was to be not less than 56 feet wide,(2) and as deep as the foundation of the inner walls, to discourage sap. It was an advantage if it could be water-filled;in any case its sides had to be perpendicular. The mound outside was to increase its apparent depth, to hide it, and to force assailants to expose themselves to an easy fire from the wall.

Within the ditch was the προτειχισμα : a wall of some height, banked up with earth within, so that its chemin de ronde would be nearly on a level with the lists. In these περιβολοι the country people would be assembled, and their defence would naturally be the more strenuous, since they would know the exceeding unlikelihood of rescue from the defenders

---

(1) Aed. 211 - 214, 255, 256.

(2) Tactica xii. 6.

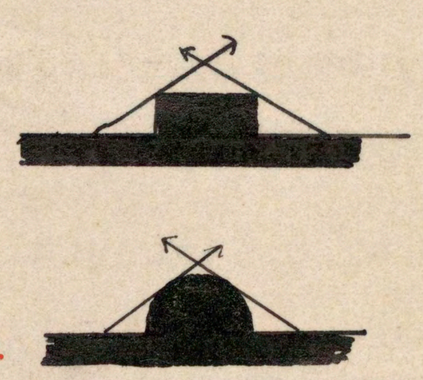
of the inmost wall. Procopius lays down that the space between the two walls should be one quarter the height of the inner : and this unusual nearness was intended to enable both walls to be manned at once against attack. The inner wall, τεῖχος , was to have two rows of defences : the ground floor of loop-holes in embrasures of some size : the upper a gallery, often vaulted, or wood-roofed, sometimes open, shielded outside by merlons of a certain strength and height. The thickness of a wall should be one-fourth its height and at intervals upon it must be towers, three-storied, and usually square.

The Byzantine curtain-towers are mysteriously inadequate. The Tactica demands that towers be octagonal outside, and circular inside : and one of this pattern exists at Bash Dagh in Asia Minor : but generally there are none such. Occasionally towers are octagonal, inside and out, more often hexagonal : nine-tenths are simply rectangular : in the African fortresses round towers are sometimes used at the angles of the larger places, and very occasionally there is one on the curtain wall. Procopius mentions towers that commence square, with a circular superstructure : - and there is one at Bash Dagh,[1] and three or four in Africa. The shallow rectangular shape is however the usual one : the towers have the thinnest walls on the

Constantinople has lots.

---

(1) "The Thousand and One Churches," p. 283, Ramsay and Miss Bell.



12.

1. Rectangular curtain-tower:

2. Half-round tower of the same diameter: showing its advantages for defence & offence.

Second visit 1911: climbed this tower, & found certain signs of Arab work in it: at the same time the argument may stand, for the foundation is Carian work.

(Nephin)

Enfeh: the moat, looking N. The mass of rocks in the centre is for a ~~drau~~ bridge-pier: this, like Athlit is a sea-level cutting

~~#11~~ 11a

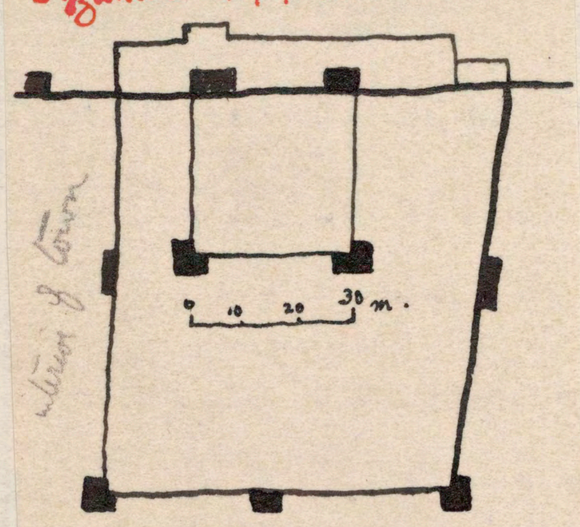
XIII. Polygonal tower at Edessa, at angle. From across moat.

enceinte, often only half the thickness of the curtain, and are hollow to the ground level. There is hardly a Byzantine tower that could not be smashed in with a few blows of a ram. Their square fronts made attack easy, and mangonel stones found a fair target : also the square shape gave very little flanking fire, (Plan 12.) and was less defensible from the walls. Before an earthquake it was most liable to collapse. The only point in its favour was its readiness of construction; that they valued more the round tower, or the polygonal was shown by their placing these at important points. Pla xiii For the rest they seem to have trusted to the weakness in siegecraft of the enemies they had to ward against : the Arabs were till Saladin's time contemptible engineers : and the Greeks found that a plain wall without towers was often sufficient to check them. Curtain towers were only seldom (as at Antioch) connected both with the chemin de ronde and the interior of the fortress. More often the towers are isolated from the curtain; sometimes there was no entrance from the interior : when there is there is usually no communication with the upper floor : and the entrance was always inconveniently narrow, sometimes less than two feet wide, in a passage of ten feet. They were always stone-vaulted : probably simply from lack of wood.

We hear of one other part of a castle, the φρουρα or πυργοκαστελλα of Procopius. It took the place of the Western

KASR BAGAI.

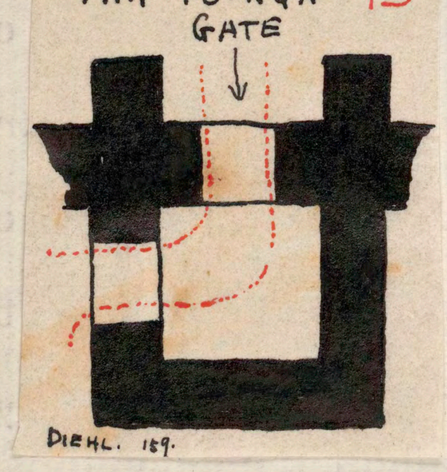
Byzantine πυργοκαστελλα.



DIEHL. p. 193.

14.

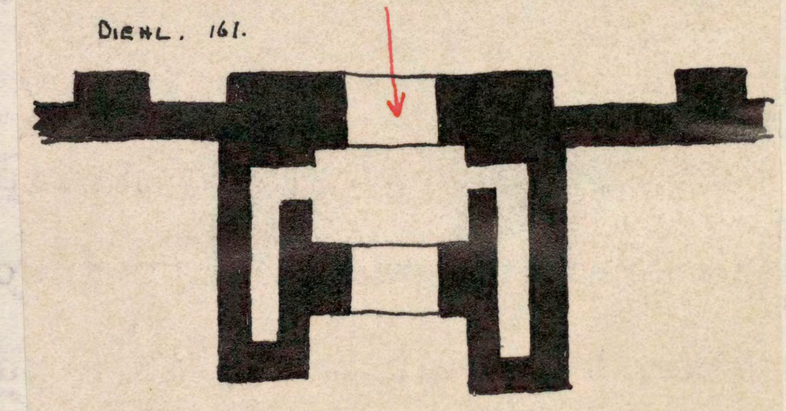
AIN TOUNGA GATE 15



DIEHL. 159.

MDAOUROUCH. GATE. 16

DIEHL. 161.



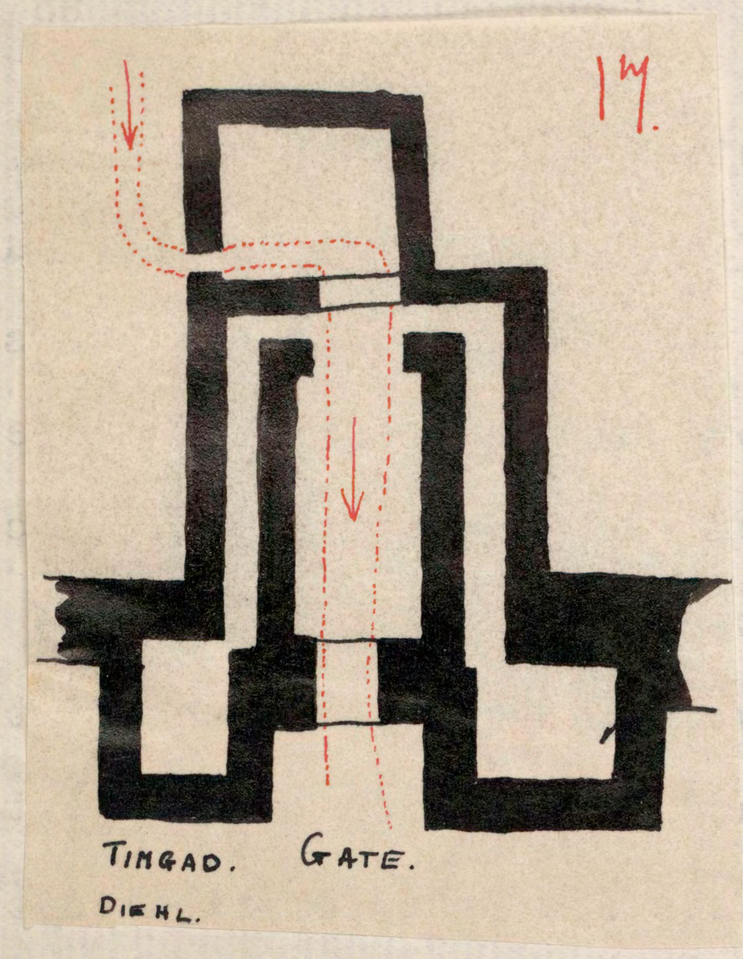
keep : and like it was usually on the wall of the building, and at one end : only while the Frank donjon was usually put in the strongest defensive position, the Byzantine one was sometimes put in the weakest. The more common position, however, was just as in the West, though of course nothing so defenceless as the Norman keep was employed. (Plan 14.)

The gates of their castles were the chief concern of the Byzantine architects. They had no appreciation of the portcullis or herse : and so their gates are more complicated than the Latin ones : also the Arabs seem to have attacked, to some extent, the gates in particular. At any rate they were made extremely narrow (quite a large one is only 4 feet wide at one point) and whenever possible were flanked by towers at the sides. Sometimes they were set in towers, and defended by being forced around at right angles in a trap as at Ain Tounga.(1) (Plan 15.)

At Mdaourouch (Plan 16.) they were of a different form : the double gate here may have been intended to surprise a small attacking party. A force might be hidden in the side chambers, and overlooked by a party battering the inner gate but more probably it was only for the convenience of guards in the time of peace. It could be arranged that one gate

---

(1) Diehl, p. 159.


14.
TIMGAD. GATE.
DIEHL.

should be shut before the other was opened : and so surprise would be made impossible. At Timgad (Plan 14.) these two systems were combined into one extremely formidable entry.

Of other details it is worth noting that the chemin de ronde had frequently to be carried on corbelling or on arcades, owing to the slightness of the walls, as at Antioch and elsewhere : and that no machicoulis of any sort or pattern appear on any known Byzantine fortress prior to the 13th century. One can only conclude that they were unknown.

One is on the "Constantine" gate in Constantinople. I think late :-

In plan Byzantine castles are found of two kinds : one a derivation of Roman camps, square with towers at the angles, and if the curtain is over-long, wall towers as well at rare intervals.(1) The other is the fortress built on some easily defended position, following in its lines the contour of the ground. Generally, however, the Byzantine fortresses are not skilfully placed, as regards defence : they are frequently overlooked in an extraordinary manner from hills close by : and they never preferred a defensible post to one strategically important as the Crusaders so often did. The Greeks put their buildings where they were wanted : the Franks where they would be impregnable. The Greek forts were defended by the size of their garrisons, the depth of their ditches, and the efficiency of their army in the field; The Latin fortresses by their carefully schemed covering fire, and the natural advantages of their position.

---

(1) At Constantinople 180 feet apart in places.

The MILITARY ARCHITECTURE of the LATINS in SYRIA.

The viaduct at Haleb. I think that all the fortress follows Byzantine lines: except perhaps this thing: which is extraordinary.

Aleppo

V.

In treating of the Latin fortresses in Syria itself, it cannot be too strongly urged that documentary evidence of building is absolutely valueless. Actual examination of the existing ruins often shows that the Crusaders only occupied (or at the most repaired) an already existing Byzantine castle : or there may be signs of later rebuilding, either by a succeeding generation of Franks, or by Beibars, who was frequently generous enough to extend his aegis over the works of his predecessors, by cutting in his own inscriptions, or even, as in the Sidon district, by Arabs of the 16th or 17th cneturies. Mediaeval fortresses must in every case be dated from their own evidence.

In dealing with the 12th century in the East Arab influence in architecture may be entirely discounted. Beibars seems to have been the first Arab sovereign to build respectable fortresses. His citadels in Aleppo and Damascus, and his work at Crae des Chevaliers are creditable, if not very remarkable copies of Greek or Latin work. Before him the masterpieces of Syrian unaided effort are to be seen in the absurdly weak castles at Masyad and Kadmus. (1)

---

(1) The account of Masyad by Rider Haggard in "The Brethren" is splendidly imaginative. The genuine place is contemptible. (The local workhouse).

Any very great uniformity in the Syrian fortresses of unquestioned Latin parentage of the 12th century would be surprising. The piece-meal character of the Frankish conquest of the country, and the fact that their political divisions often implied racial differences would tend towards the formation of local schools of architecture and, as a matter of fact, castles quite opposed in principle were erected at the same time in different districts. The ~~Romans~~ Normans of Sicily had adopted ~~very~~ many Eastern customs : in Antioch and Edessa they adopted the Greek fortresses : a few slight walls in the castle at Antioch are the only sign of Latin occupation in that province. In Tripoli great builders among the nobles were succeeded in their fiefs by the military orders, who carried out - or surpassed - the intentions of their predecessors, and accordingly we find there the most elaborate fortresses. In the Southern part of Syria, that depending particularly on Jerusalem, very few castles have been preserved. Later occupation is responsible for the destruction of most, but there are some, beyond the Dead Sea, still standing tolerably perfect, but quite undescribed. Rey has published a plan and description of Kerak in the Desert, but neither is his own work : indeed Kerak has never been studied by a mediaevalist.(1)

Plan later pp. 18

---

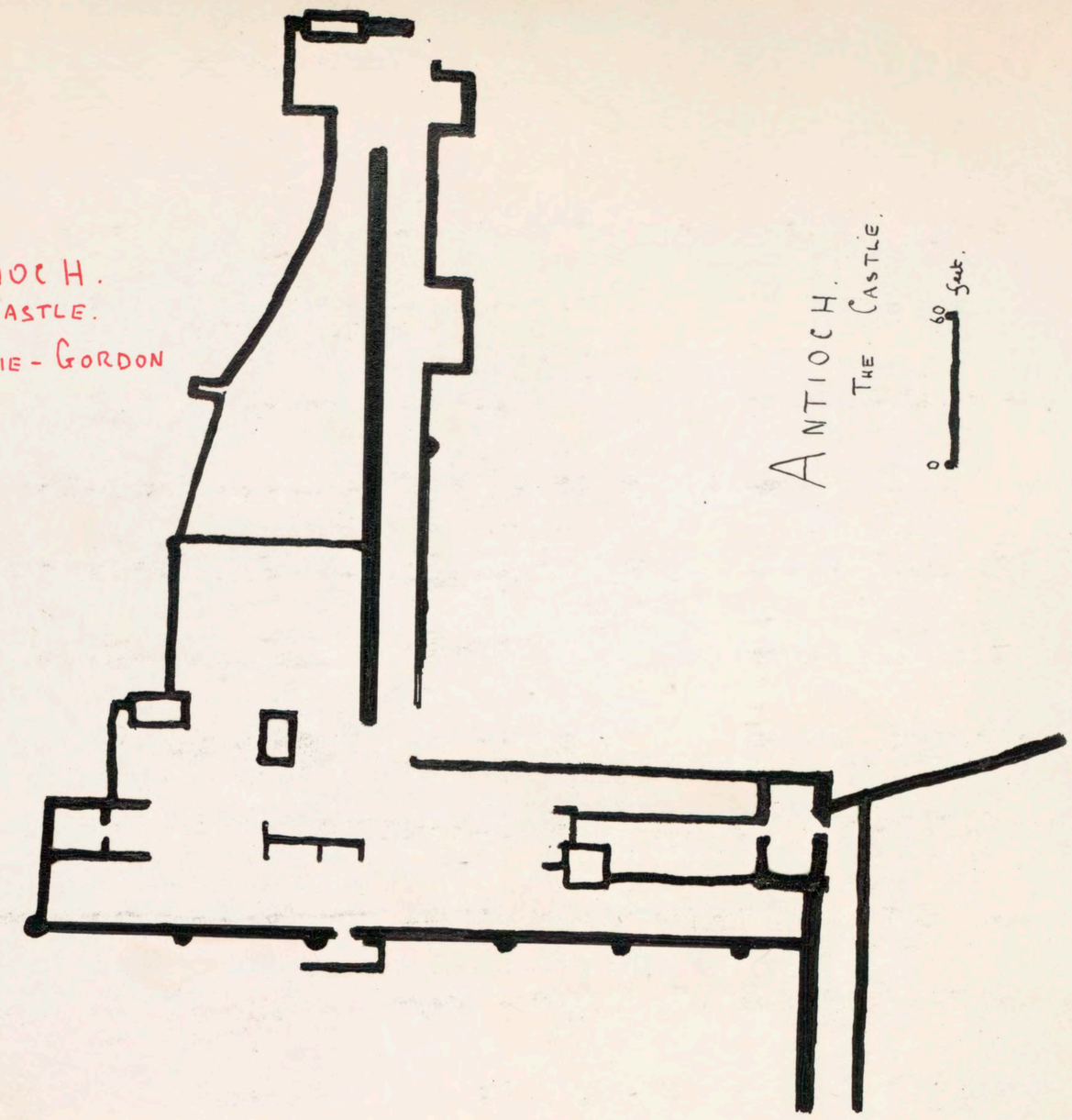
(1) And The unthinking activity of some Bedawin, in tearing up the Hedjaz railway near Amman, prevented my going there in 1909. and in 1911 : only this year the Druses helped the Arabs. They have killed the Turkish governor, and burnt the Konak and the schoolmaster.

GretagMacbeth™ ColorChecker Color Rendition Chart

cm 1 inches 1

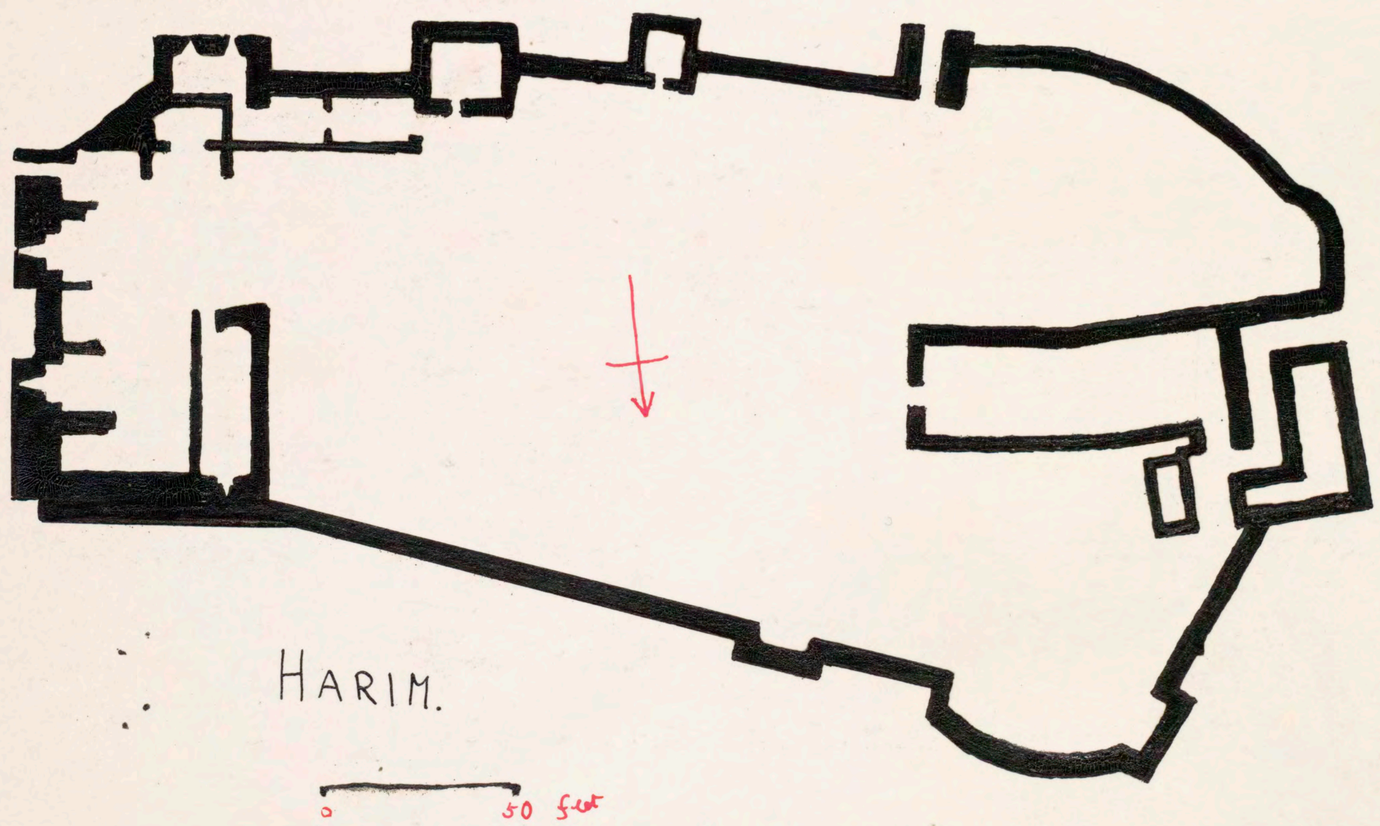
18

ANTIOCH.
THE CASTLE.
C. H. C. PIRIE-GORDON



ANTIOCH.
THE CASTLE.
0 60 feet.
C.H.C. PIRIE-GORDON.

19.



HARIM.

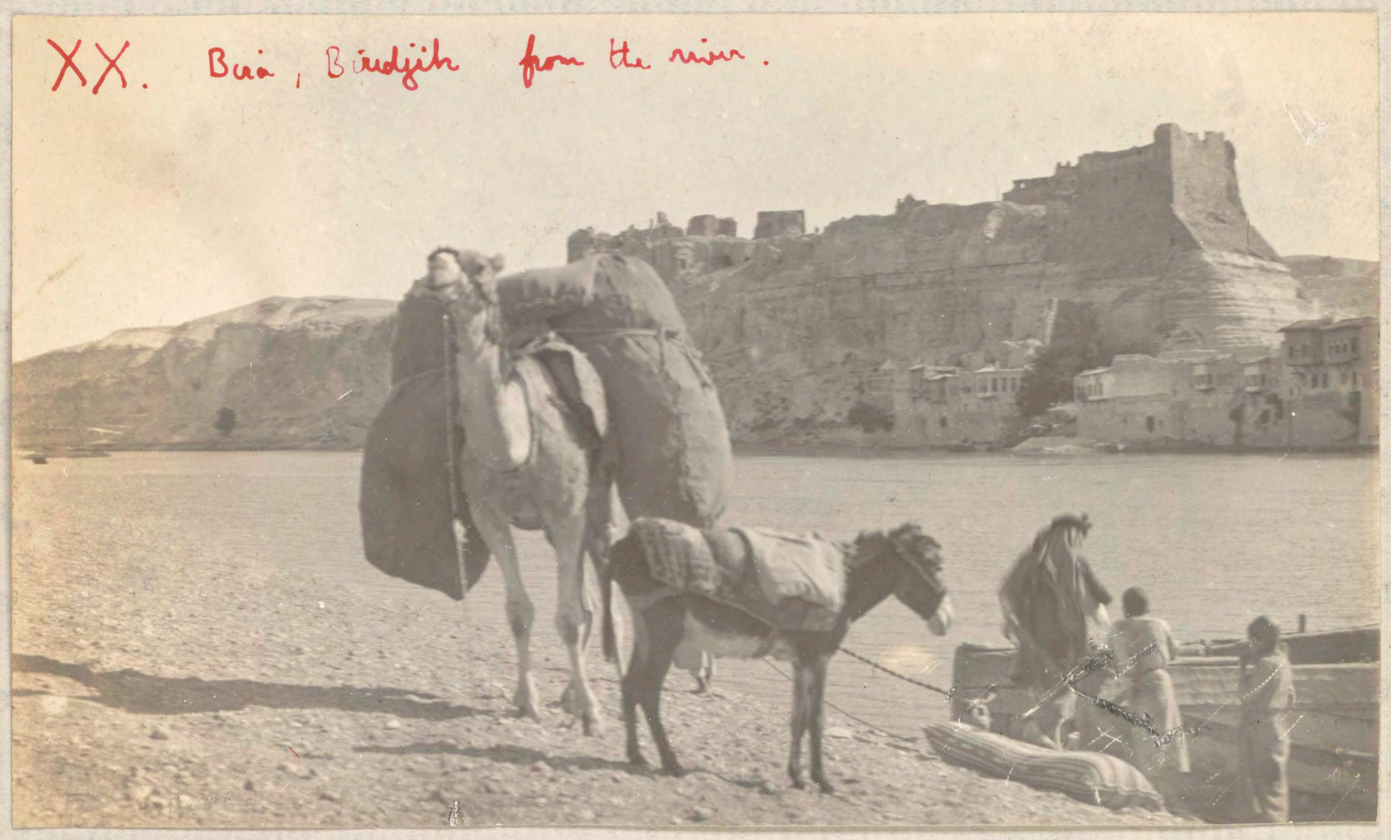
0 50 feet
C. H. C. PIRIE-GORDON.

It has been hailed by Rey, and by Professor Oman following him, as an untouched example of Latin military architecture. This claim seems a little dangerous, when it is remembered that Kerak was a Byzantine fortress before it became Crusader, and that after this it was the seat of a powerful Arab principality, and that finally Beibars' presence is shown by his name on one of the towers. It may well be that the share of Payn of Nablous in the building of it is infinitesimal. At least, until there is better material to work upon, elaborate deductions from it as to the state of Latin military architecture in 1140 are quite out of place. Beibars' buildings in particular are very easily confused with Crusader work, for it seems most likely that they are a partial imitation.

From photographs Kerak seems fairly late in date: perhaps ? Reginald of Châtillon -

To consider the Crusading castles in their chronological order is extremely difficult: they are mainly a series of exceptions to some undiscoverable rule. To begin with, the castles of the Antioch and Edessa principalities means beginning with a string of nearly untouched Byzantine fortresses. At Antioch the walls have no signs of Latin interference : and the castle, (Plan 18) with its long, flimsy wall with the ridiculous buttresses, is evidently residential and not a post of military importance. In the Antioch province the celebrated castle of Harenc (Harim حرم) is Byzantine and Arab. It has a gigantic dry ditch cut in the rock on which the castle stands, and this alone would be (sufficient proof of) argument for a Greek origin : when the case is supported by a ground plan (19)

It's on a mountain peak and very hard to get at.


XX. Buia, Biudjih from the river.