Further excavations may, perhaps, make known to us whether the chambers have belonged to a bath, a dwelling-house, or a guard-room for the gate. That hypocausts were used for heating houses, as well as baths, we know ; we have the authority of Seneca for this, who states that ${ }^{\circ}$ the heating of domestic apartments, by the hypocaust, came into fashion within his memory.

## H. GLASFORD POTTER.

X. - AMBOGLANNA: Communicated to the Society of Antiquaries, Newcastle-upon-Tyne, Nov, 5, 1851. By H. Glasford Potter, F.L.S., F.G.S., Cor. Mem. Royal Academy, Turin, etc.

IN a paper, read to this Society, in November, 1850, I stated that "no traces whatever of a gate could be found on the south side of the camp, at Birdoswald ; and that I inclined to believe, Horsley's description of a gate, with turrets on each side, was erroneous."

Being anxious, however, to ascertain whether or not any traces of a gateway could be found below the surface of the ground, I commenced an excavation, midway between the east and west corners of the south rampart. At first, nothing indicating the site of a gate was met with; but, at the depth of three feet, I came upon a large stone, which appeared to belong to the pillar of a gate. This encouraged me to persevere; and, in the end, I laid bare the remains of a fine double gateway.

In order that the Society may form some idea of the quantity of rubbish over this gateway, I may mention, that, in addition to my brother, Mr. W. S. Potter, of London, who assisted me in these excavations, I had
sometimes three or four men at work above a month, with pickaxes, spades, cart, and barrows. The rubbish had, in some places, accumulated to the height of ten feet.

On looking at the ground plan of the gateway (Fig.I.) the double entrance will be easily understood. But, before I proceed with the description, I deem it an act of justice, as well as one which affords me much pleasure, to direct the attention of this Society to the admirable drawings, illustrating this Paper, which have been executed by my talented friend Mr. J. Storey.

Within each gateway, a number of wedge-like stones were found which had evidently belonged to arches; and on examining the western pillar, which is in a better state of preservation than the other, and is above six feet in height, a projecting stone or impost is seen, from which one of the arches has sprung.

There are six courses of stones in this pillar; which is set back 3 feet 8 inches from the outer face or angle of the camp wall. The side wall of this gateway, between the outer and inner pillars, is 10 feet 6 inches in length, and nearly 7 feet in height. If we take the length of the side-wall, between the pillars, and add to it 1 foot 11 inches, for each pillar, we have a length of 14 feet 4 inches, which, I believe, has been arched over.

The entire thickne;ss of walling at this gate, eighteen feet, is obtained by adding the recess in the wall, 3 feet 8 inches, to the length of the arched gateway.

The sill-stones have been partly removed; but some of the flagging of the floor of the gateway remains. The pivot holes, at each pillar, prove this gate to have been two-leaved or bivalvular.

The gate I am describing, was blocked by a rubble wall of very bad workmanship. Some of the stones were very large, and set on edge; one of these was six feet long, four feet broad, and only five or six inches in thickness.

I shall now proceed to describe the other gate, marked $c$ on the plan. The eastern pillar has only three courses of stones left. The side-walls are 8 feet 6 inches long, and 3 feet 6 inches high. The stones, of this side of the gate, have evidently been removed for building purposes.

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The sill-stones are in good condition; they have no marks of wheels upon them.

This gate was also blocked by a wall, but, here, it was of very superior workmanship, and bore evident marks of being Roman. A single gateway would be much more easily defended than a double one; and the Romans may, therefore, have thought it prudent to wall up this entrance before they left the camp.

In all the other entrances we found walls which had evidently been constructed in the utmost haste, and with any material that could be easily obtained; in this gateway, however, great pains had been taken in building the wall, and nothing indicating hurry or want of time could be perceived.

In the central partition wall ( $d$ on the plan) only one course of stones remains. The pillars or piers, at each end, have been formed of large stones; the inner one measuring a yard square, that on the outside not quite so much. The wall, running between the pillars, is twenty-two inches in thickness.

On carrying our excavations along the inner face of the wall, adjoining the gateway, a guard-room was discovered (marked $a$ on the ground plan). This chamber is 10 feet 4 inches long, 8 feet broad, and between 7 and 8 feet high. It contains a rude oven ( $f$ on the plan) about a yard in length and breadth, and has been about twenty-eight inches high. This oven has been constructed long after the Romans had quitted the camp, and, at a time, when not much attention was paid to masonry. One side of the original wall of the chamber has been increased in thickness, and the oven built against it.

Near the guard-room, the remains of a kiln (marked $e$ on the Plan) for drying corn, or malt, may be seen. It is probably of the same age as the oven, if not of more recent date. It is flagged, at the bottom, and measures 4 feet 4 inches, by 3 feet 8 inches.

I was at first inclined to believe that the gate, I have just described, was the Porta Protoria; but was induced to alter my views in consequence of a different opinion expressed by Mr. Robert Bell, of the Nook, Irthington. This gentleman, who possesses much information on all matters relating
to Roman antiquities, considered the gateway, in question, as the Decu man gate of the station. I consequently examined more carefully, than I had previously done, the authorities on this subject; and the result is, that I now believe this gate to be the Porta Decumana of Vegetius, or the Extraordinaria of Livy.

It is not surprising that archæologists should be somewhat embarrassed in the arrangement or position of the gates of a Roman camp, when it is remembered what very unsatisfactory descriptions are given by ancient writers on the subject. The following note, from General Roy's Military Antiquities, will prove what I have just stated:-"Lipsius places the Decuman gate where the Prætorian should stand, and, consequently, reverses the whole camp; making the front what the rear should be, and the right what should be the left. Sir James Turner, in his Pallas Armata, says that $D u$ Preissac and Terduzzi have followed Lipsius, with respect to the general position of the camp ; and the knight himself seems to have agreed with them in opinion. Stevechius, however, in his commentary on Vegetius, restores the camp to its true position; placing the Prætorium towards the rear, with the Decuman gate immediately behind it, and the Prætorian gate in front, at the further end of the camp. Du Choul gives the same dimensions to the Polybian camp as Lipsius does, with the same distribution of its principal parts, but he changes its position, placing the Prætorian and Decuman gates properly. Nevertheless, the two principal gates stand not at the ends of the principal street, where undoubtedly they should stand, but in the middle of the sides of the camp; that on the right being called Quintana, that on the left, Principalis. The Duke de Rohan follows Lipsius exactly, with regard to the figure and extent of the camp, reversing it as be does; but with respect to the two side gates, he copied Du Choul."e Then again Livy, by giving the name Porta Qucestoria to the Porta Prcetoria, has somewhat increased the difficulty of arriving at a right conclusion on so important a matter.

Unfortunately, Polybius, the Greek author, in his account of Castrametation, has made no mention of gates, and hence has arisen the difference of opinion as to their positions. If, however, we take Vegetius, who flourished

[^0]A.D. 386; Polybius, who died B.C. 124 ; and Livy, who died A.D. 17, and who in some parts of his history, has copied from Polybius, without acknowledgement, we shall be able to ascertain the position of the gates, with tolerable accuracy. Polybius tells us that " as soon as the ground is chosen for forming a camp, that part of it which is judged to be the most convenient, both for the dispatch of orders, and for discerning every thing that is transacted, is first marked out for the place of the consular tent." The consul was at an early period termed pretor, and his tent, or place in the camp, Prætorium.

Now if we examine the camp at Birdoswald, we find the ground gradually rises to the south, and therefore, according to Polybius, the Prætorium must have been placed in this part of the camp. Here also would be the Quæstorium, Forum, etc.

Livy, in giving an account of the attack of the Ligurians upon the camp of Lucius Æmylius, mentions the four gates of the camp (ad quatuor portas exercitum instruxit). He at the same time speaks of the extraordinarii going out of the extraordinary gate. (Ut signo dato simul ex omnibus partibus eruptionem facerent, quatuor extraordinariis cohortibus duas adjunxit, praposito M. Valerio legato; erumpere extraordinaria porta jussit.) We find also the right and left gates mentioned (ad dextram principalem hastatos legionis prima instruxit ; .... ... tertia legio adversus Principalem sinistram portam instructa est). And then we find him referring to the Quæstorian gate ( $Q$. Fulvius Flaccus legatus cum dextra ala ad questoriam portam positus). ${ }^{\text {g }}$

In another place, in his History, Livy tells us, that the Samnites attacked the camp of the consul Attilius, during a thick fog; and forcing their way through the Decuman gate, at the back of the camp, took the Quæstorium, and killed Lucius Opimius Pansa, the quæstor. (Ab tergo castrorum Decumana porta impetus factus, itaque captum quæstorium; quæstorque ibi L. Opimius Pansa occisus. $)^{\text {h }}$
f Hampton's Polybius, 381.

[^1]According to Vegetius, the top or back gate (ab tergo or maxime aversa ab hoste) was called the Decuman gate. The bottom or front gate, was named Porta Pretoria. ${ }^{\text {i }}$

Now as the south gate is certainly maxime aversa ab hoste, and as it occupies the highest part of the camp, we may fairly conclude that it is the Decuman gate, and that the Prætorian gate was placed in the wall of Severus, and opened into the country north of the Wall. Gen. Roy, in his Military Antiquities, p. 50, says :-"With regard to the Decuman gate, mentioned in this passage of Vegetius, it is to be observed, that for the maintenance of that rigorous discipline, established in the Roman armies; when a particular corps, or any number of soldiers had misbehaved in the field, or had been mutinous to their officers, it became necessary to decimate the delinquents, every tenth man being drawn out by lot, and doomed to suffer death. Hence, we may judge, that the Decuman gate had its name from those who had received sentence being led out by it for punishment or execution."

It now only remains for me to notice the restoration of the gate, as seen in the Plan. (Fig. II.) I must, in the first place, state, that I conceive the wedge-like stones, found in the gateway, afford proof sufficient, that arches have formerly stood here. I have also been informed, that when the late Mr . Crawhall was clearing out the ditch around the camp, a number of wedge-like stones, forming one entire arch, were found immediately in front of this gate.

My authorities for the form of the arches, and the lorico, or breastwork, are-

The Architecture of Marcus Vitruvius Pollio, by Gwilt.
Justi Lipsii Poliorceticsn. Antverpia, m.d.xcvi. liber secundus.
Gell and Gandy's Pompeiana.
Fosbroke's Encyclop. of Antiq.
Rich's Illustrated Campanion to Latin and Greek Lexicon.
Smith's Dict. of Greek and Roman Antiquities.

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PIG. 1.- GRound plait of the decuman gate, amboglanNa
Fig 2. decoman gate restored

For the position of the gate, and the towers on each side, we have sufficient authorities in Horsley's Britannia Romana, more especially when taken in connexion with the remaining portion of the gateway, as seen in the ground plan and drawings.

I would observe, in conclusion, that any one acquainted with Roman masonry, must acknowledge Mr. Storey's representation of it to be correct.

## H. GLASFORD POTTER.


[^0]:    - Roy's Military Antiquities, 45.

[^1]:    ${ }^{5}$ T. Livii Patavini Rom. Hist. ab urbe condita. Basileæ, M.D.LV. Decadis quartoe, liber decimus, 724.
    ${ }^{\text {b }}$ Decadis Primæ, liber decimus, 259.

[^2]:    ${ }^{\text {i }}$ Smith's Dict. of Greek and Roman Antiquities, verbum Castra.

