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Soon after passing Ho-kow, the embassy quitted the Yangtze-kiang, after having proceeded up it about 285 miles in the course of 26 days. That part of the river which they navigated flows in a N.E. direction, with a current of more than 2 miles an hour, till it meets the tide near Nanking. Its mean breadth is from a mile to a mile and a half, except where interrupted by islands; but in some places it expands to 3 miles. The islands are numerous, and in general flat, some highly cultivated, others covered with tall reeds, used for embankments or fuel. The country on the right bank of the river is mountainous, and in many places the hills are uncultivated, but on the left bank are extensive plains in the highest state of cultivation.

The great land-route from Canton to Peking crosses the Yangtze-kiang by a ferry, not far above the confluence of the waters from the Poyang lake.

Note.—With reference to the Port of Shanghae, our present favourable position is mainly attributable to the firmness, discretion, and conciliatory bearing of Major Balfour, of the Madras Artillery, our Consul at this port from the period of its being thrown open for trade in November 1843 to September 1846.—Ed.

IV.—*Remarks on the Isthmus of Mount Athos.* By Lieut. T. SPRATT, of H.M.S. ‘Beacon.’ Communicated by Commander GRAVES, F.R.G.S.

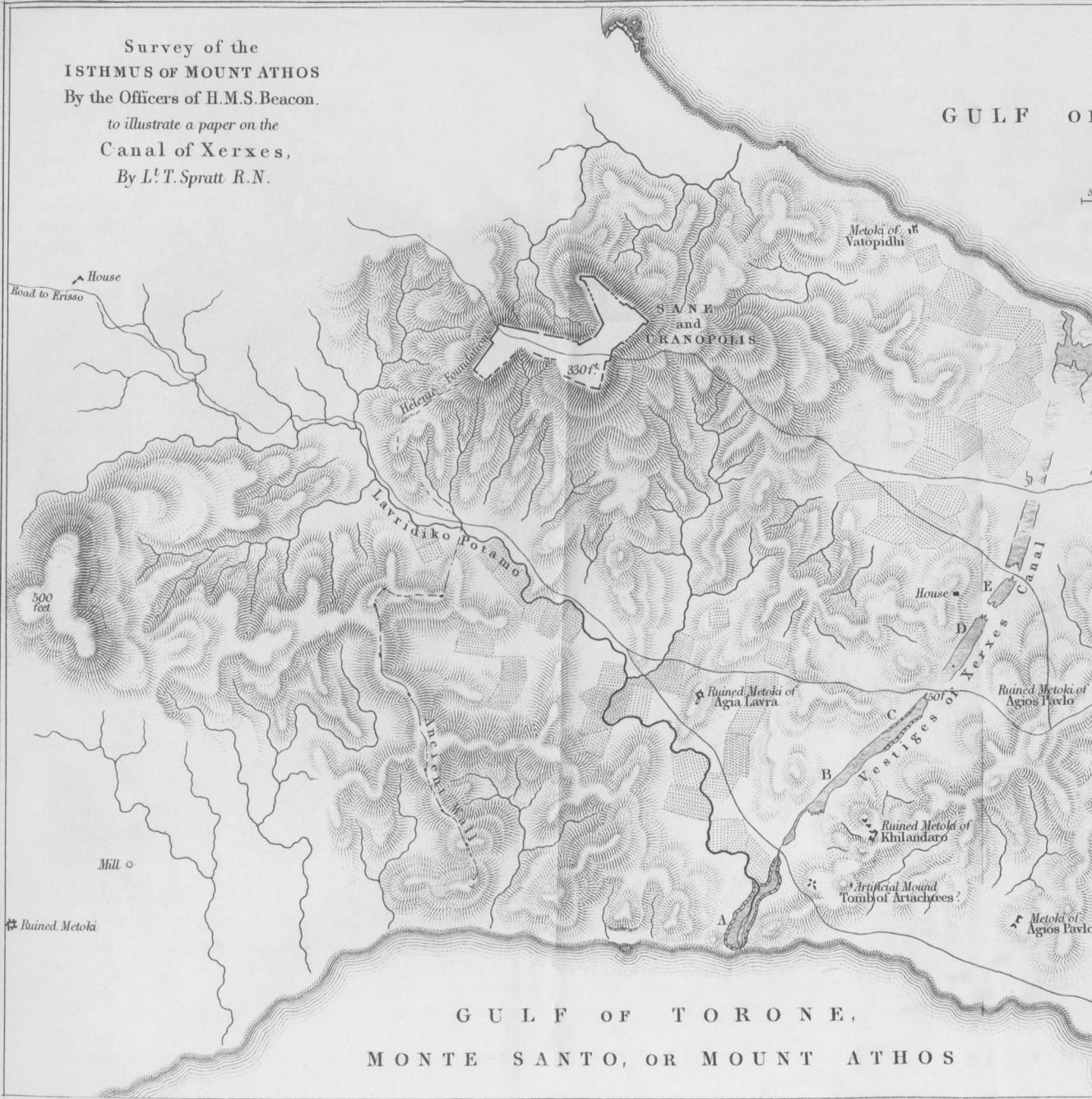
[Read 9th March, 1846.]

IN the latter part of August 1838, I was sent by Commander Graves, in the ‘Beacon’s’ tender ‘Isabella,’ to measure across the Isthmus of Mount Athos, at the spot where the canal was cut by Xerxes. (Herodotus, vii. 22, &c.) The reason assigned by the historian for making this cut was the remembrance of the loss sustained by the fleet of Mardonius (B.C.) in attempting to navigate the shores of this mountainous peninsula. (Herod. vii. 22; vi. 44.)

As the examination of the remains of this work of Xerxes occupied part of my time during the survey of the Isthmus, I offer a few observations to explain the accompanying plan which was then made of it, the more particularly as the few remaining traces of this canal may have totally disappeared in another century, when the absence of such evidence might perhaps again produce doubts upon the truth of this historical record, such as have been expressed with regard to the veracity of Herodotus on this point, both in ancient and modern times. These doubts, however, as well as those of the eminent traveller Pococke, who is one of the sceptics of modern times, have been fully confuted by the testimony of Choiseuil Gouffier, Dr. Hunt, and Colonel Leake. A careful examination of the locality removes all doubt.

Survey of the
ISTHMUS OF MOUNT ATHOS
 By the Officers of H.M.S. Beacon.
 to illustrate a paper on the
Canal of Xerxes,
 By L. T. Spratt R.N.

GULF OF



GULF OF TORONE,

MONTE SANTO, OR MOUNT ATHOS

GULF OF ACANTHUS

Scale of Yards.
50 100 250 500 750 1000 1250



Reference.

- A... Deep ditch from 60 to 120 f^t broad & 5 to 10 f^t deep.
- B... Swampy depression from 2 to 6 f^t deep & 60 broad.
- C... Swampy hollow 90 f^t broad & 8 deep.
- D... The traces of the Canal are here indicated by a slight depression between parallel banks 100 f^t broad.
- E... Marshy hollow exceeding 100 f^t in breadth & from 4 to 6 f^t deep.

GULF OF TORONE,
E SANTO, OR MOUNT ATHOS

On the 27th of August we entered the Gulf of Mount Athos, now Monte Santo. After passing close along the west shore, in sight of the monasteries situated at the base of the magnificent mountain which gives its name to the Gulf, we sailed within the wooded island of Mouillane, and anchored off the S. extremity of the canal, opposite to two rocky hills, between which the canal opened to the sea through a natural valley, which descends from the hilly ground in the centre of the isthmus. This hilly appearance of the isthmus certainly looks unfavourable to the execution of the design of Xerxes; but Herodotus, in his minute description, has not neglected to mention the undulating or hilly character of the part of the isthmus through which the canal was cut.

Herodotus (vii. 23), in his account of the manner of carrying on the work of excavation, shows that no impediment existed in the nature of the ground; for we have an illustration of the softness of the material dug through in the double labour which was said to have befallen the parties engaged in cutting it, by the falling in of the sides or banks of the canal; the Phœnicians alone avoided this by making the excavation in the highest part twice the width of what it was to be in the lowest. This fact is confirmed by the geology of the district. The part of the isthmus through which the canal was cut is a bed of tertiary sands and marls, so that this work of the Persian king, on which three years were spent, is really insignificant compared with many works that are executed at the present day.

The veracity of Herodotus has probably been questioned upon two grounds: one from a false idea of the magnitude of the project, and the other from the apparent absurdity of such an undertaking. The above facts confute those who maintain the former opinion. The motive of the king, as Herodotus conjectures (vii. 24), was to show his power and leave a memorial.

Two rocky hills embrace the S. extremity of the canal: the highest of them, which is of a remarkable conical form, and rises to the height of 155 feet, stands on the E. side of the canal. The other, which is about 30 feet high, terminates a chain of heights which descend from the hills at the back of the modern village of Erissa or Erissos, apparently the ancient Acanthus. Between the two hills is a small pool, in a ditch or water-course, with steep clay banks, 10 feet deep and 120 broad. Beyond the ditch the pool narrows gradually until it is joined by a watercourse and a small stream which flow into it through a valley on the W. side of the isthmus. Turtle and small eels abound in the swampy bed of the watercourse. The ditch, however, continues about 100 yards beyond the junction of the watercourse, towards a hollow or depression of the isthmus, through which the canal

must have been cut, but there is nothing in this part that would lead a casual observer to suppose that the ditch was more than the natural result of the winter torrents flowing from the neighbouring hills; and certainly it shows no indications of a connexion with an artificial cut. Further on, however, in the more elevated part of the isthmus, the evidences of the canal are more decisively indicated in a succession of swampy hollows which run in nearly a straight line across, and are from 2 to 8 feet deep, and from 60 to 90 broad. These hollows may be traced nearly to the top of the rise, where all evidences of the canal are destroyed by a road which leads to the promontory. Two or three other tracks or paths cross the site of the canal at different points, and have each had a similar effect. It is indeed surprising, considering the period which has elapsed since the canal was cut, that even a vestige of it should now remain.

The highest part of the isthmus through which the canal was cut is 51 feet above the sea, and this appears to have been about the original level of the ground previous to the excavation; so that the greatest depth of the soil cut through could never have exceeded 60 feet, and this only for a short distance, for the hilly ground occupies but a limited portion of the isthmus, between which and the N. shore is a small alluvial plain. The traces of the canal on descending to this part are less distinct than on the opposite side of the isthmus, but still the chain of hollows which here also indicate it, have a decidedly artificial character, quite different from a natural watercourse. Through the plain all traces have disappeared, and also the mouths of the canal, which is not surprising, for Herodotus mentions the difficulty which was felt in keeping them open, to effect which mounds were made about the mouths of the canal on account of the surf (*ῥοχίν*), in order that the mouths might not be filled up. This plain was probably the meadow, in which a market was held for the sale of provisions and necessaries to those engaged in the excavations. (Herod. vii. 23.)

Near the shore is a small shallow marshy lagoon, which seems to occupy the position of this mouth of the canal, and near it some Hellenic foundations were observed by Colonel Leake, which may have had some connexion with it. The distance between the two shores is about 2500 yards, but the length of the canal rather exceeded that distance, in consequence of its being slightly oblique to the direct distance across the isthmus. Herodotus estimates the width of the isthmus, at the place where the canal was made, at about 12 stadia, or 7200 Greek feet (vii. 22), which agrees very well with the true dimensions.

Herodotus (vii. 22) says that Sane, an Hellenic city, was situated on the isthmus in which Athos terminates. The cities situ-

ated *within* (ἐντός) Sane, and on the side towards Athos (ἔσω τοῦ Ἄθω), which the Persians then designed to make insular instead of continental, are these—Dion, Olophyxus, Acrothoon, Thyssus, Cleonæ. There is no difficulty in this passage to those who are acquainted with the language of Herodotus. Sane was on the isthmus, and it is a probable inference from the whole passage, that it was on the N. side of the canal. Thucydides (iv. 109) says, “That the tract called Acte projects inwards (that is, towards the peninsula of Athos) from the king’s canal; and Athos, a lofty mountain in the Acte, terminates on the Ægean Sea. It (the Acte) contains Sane, a colony of Andros, by the side of the canal turned to the sea towards Eubœa, and the other cities are Thyssus and Cleonæ, and Acrothoon, and Olophyxus, and Dion.” The inference from this passage is that Sane was within the canal towards the isthmus. Its site is generally supposed to be near the S. extremity of the canal, but the spot cannot be clearly identified by any existing remains, much less at the spot assigned to it in the map of the isthmus published by M. Choiseuil Gouffier in 1791, where, certainly, no such ruins are to be seen; and in neither locality is the ground such as was generally chosen by the Greeks for the position of a city, and particularly such a one as Sane, which resisted the army of Brasidas, and refused to submit when he had encamped under its walls.

In his enumeration of the cities in the peninsula of Athos and on the isthmus, Pliny (*Nat. Hist.* iv. 10. ed. Harduin) does not mention Sane. Uranopolis, which was founded by Alexarchus, brother of Cassander, king of Macedonia, and which Pliny does mention, has been considered to be on the site of Sane, on the supposition that it merely took the name and place of that city; but I accidentally found the ruins of a city which had escaped former travellers, on the W. side of the canal, which may be the site of Uranopolis. These ruins are situated on the summit of a hill about a mile to the westward of the canal, and consist of the walls of an Hellenic fortress, the foundations of the entire circuit of which are visible above the ground, and at its N. face, near the foundations of a round tower, two or three courses of the squared smooth blocks of limestone of which it was built appear above the ground. The enclosed area is strewn with broken fragments, but no buildings are visible. Crossing the low hills to the S. of the fortress is a long low wall with towers at intervals; it is evidently an ancient construction, though composed of small unhewn stones, and appears to have been a line of demarcation, as well as a defence between the territory of the cities within the promontory and those without, of which the nearest was Acanthus. I did not observe any remains of a similar wall descending from the fortress to the N. shore, but my examination

of the port was not sufficient to enable me to speak positively on the point.

The territory of this city must necessarily have extended over the low ground much within the canal, for any extension to the westward would approximate too closely on the Acanthian territory; and, besides, the range of hills situated between them presents a natural boundary between the cities and territory of the peninsula and continent.

On the E. side of the canal a long low ridge stretches across the isthmus, and juts out into the sea to the N., forming a rocky point which bounds the bay of Vatopidhi, so named from a ruined metoki at its western extremity. This ridge is terminated on the S. side of the isthmus by the high conical hill which stands near the S. extremity of the canal. On this ridge are the ruins of two metokies or farms, which were formerly dependent on the monasteries of Pavlo and Kilandari, situated at the foot of Mount Athos. These, as well as several others in the neighbourhood, were built in the form of a castle, for security. Between the above two metokies and the conical hill is a small mound standing on the summit of the ridge, which appears to be artificial. Col. Leake has also remarked its artificial appearance in his 'Travels in Northern Greece.' This may be the mound erected by the army of Xerxes in honour of Artachæes, one of the directors of the canal, who died whilst the king was staying at Acanthus. (Herod. vii. 117.)

The Acanthians used to sacrifice to Artachæes as a hero; from which fact, and the context of the whole passage in Herodotus, we may infer that the mound was near Acanthus. Near the base of the mound are five or six hewn blocks, which are the only ancient remains now visible on any part of the adjacent hills, and apparently too insignificant to mark the ruins of an ancient city; and the above conjecture seems to explain their existence better than that they are the remains of the city Sane, as some suppose.

The composition of the hills included in the present plan is divided between gneiss and mica slate, and tertiary beds of marl, sands, &c. Those which lie on the E. side of the canal are composed of the former, as well also as the two rocky hills which embrace the S. extremity of the canal, where the schists are nearly in a vertical position, and contain garnets in great abundance. The hills to the westward of the isthmus as far as Acanthus (Erisso) are composed of horizontal beds of a tertiary deposit, apparently a freshwater formation, but no fossils were seen in it.

The order of superposition at the part which I examined, was first 150 feet of stratified sands and clays, 100 of indurated clays

and marls, blue and white, which was capped by 20 or 30 feet of a white calcareous stratified rock, in which were small flinty nodules.

V.—*Abridged Account of an Expedition of about 200 miles up the Gambia, by Governor Ingram.* Communicated by the Right Hon. the EARL GREY.

[Read 26th April, 1847.]

ON the 17th of December, at noon, 1842, Governor Ingram embarked at Bathurst on board the cutter 'Emma,' for Mac Carthy's Island, accompanied by the Rev. William Fox, General Superintendent of the Wesleyan Mission at the Gambia, Mr. Thomas Chown, a merchant, and Mr. Simon Pignard, interpreter of native languages to the Colonial Government. At 4 P.M., passed Dog Island, Laming Point about 7, and at 8 arrived off Albreda. A French war-steamer was lying at anchor at Albreda, having the Prince de Joinville on board, and having ascertained that his Royal Highness was desirous of visiting the town and public buildings at Bathurst on the morrow, Governor Ingram returned to receive him, resuming his voyage on the 19th, and landing at Albreda at 5 P.M. of that day. The Government residence is described as a wretched-looking dilapidated building, and so entirely surrounded by trees, jungles, rank weeds, and high grass, that it could not but be unhealthy, did not its low and swampy situation already make it so. The native village called Albreda is about 200 yards further from the riverside than the buildings occupied by the French, and stands on higher ground. The party having disembarked, walked to Jillifree, a small village, though one of the best on the banks of the Gambia. Here were great numbers of very fine orange-trees, lime-trees, and groves of bananas. Many of the native Mandingoes speak English, and a white face is by no means a novelty. In the neighbourhood were numerous ant-hills, some of them 12 or 15 feet high, and nearly as much in diameter; the white ant is exceedingly destructive, frequently destroying the floors, beams, doors, and window-frames of the buildings. Re-embarked, and, on the 20th of December, passed Jillifree, James Fort, Vintan Creek, Moota Point, and the large native town Tankerwall. The natives have a tradition of there being a tree, haunted by an evil spirit, called the 'Devil's Tree,' on Moota Point, and that it occasionally burns at night. They hold it in great dread, and will not venture near it. Arrived off Jamaly Cunda, and landed: twenty years since this was the most flourishing place on the banks of the river, being then the rendezvous of the gold mer-