

THE BLOCK OF TIN DREDGED UP IN FALMOUTH HARBOUR, AND
NOW IN THE TRURO MUSEUM.

By Major-General Sir HENRY JAMES, F.R.S., Director-General of the Ordnance Survey.

ABOUT sixty years ago a block of tin was dredged up near St. Mawes, at the entrance to Falmouth Harbour, and was presented in 1829 by the late Thomas Daniel, Esq., of Truro, to the Museum of the Royal Institution of Cornwall, in that town. A cast of this block will be found in the Museum of Practical Geology, in London.¹

Attentively considering the peculiar form of this block of tin, its weight, and the place where it was dredged up, it appears to me to throw great light upon the still vexed question of the locality of the Ictis of Diodorus.

Sir George C. Lewis has given, at page 452 of his work on the "Astronomy of the Ancients," a reference to the well-known passage of Diodorus, relative to the tin trade of Britain; it is as follows:—

"Diodorus describes Britain as being, like Sicily, triangular, but with sides of unequal length. The promontory nearest the main-land was called Cantium (Kent); that at the opposite extremity was called Belerium, that turned towards the sea was named Orca (a confusion with the Orcades). The inhabitants of the promontory of Belerium were hospitable, and, on account of their intercourse with strangers, civilized in their habits. It is they who produce tin, which they melt into the form of astragali, and they carry it to an island in front of Britain, called Ictis. This island is left dry at low tides, and they then transport the tin in carts from the shore. Here the traders buy it from the natives and carry it to Gaul, over which it travels on horseback, in about thirty days, to the mouths of the

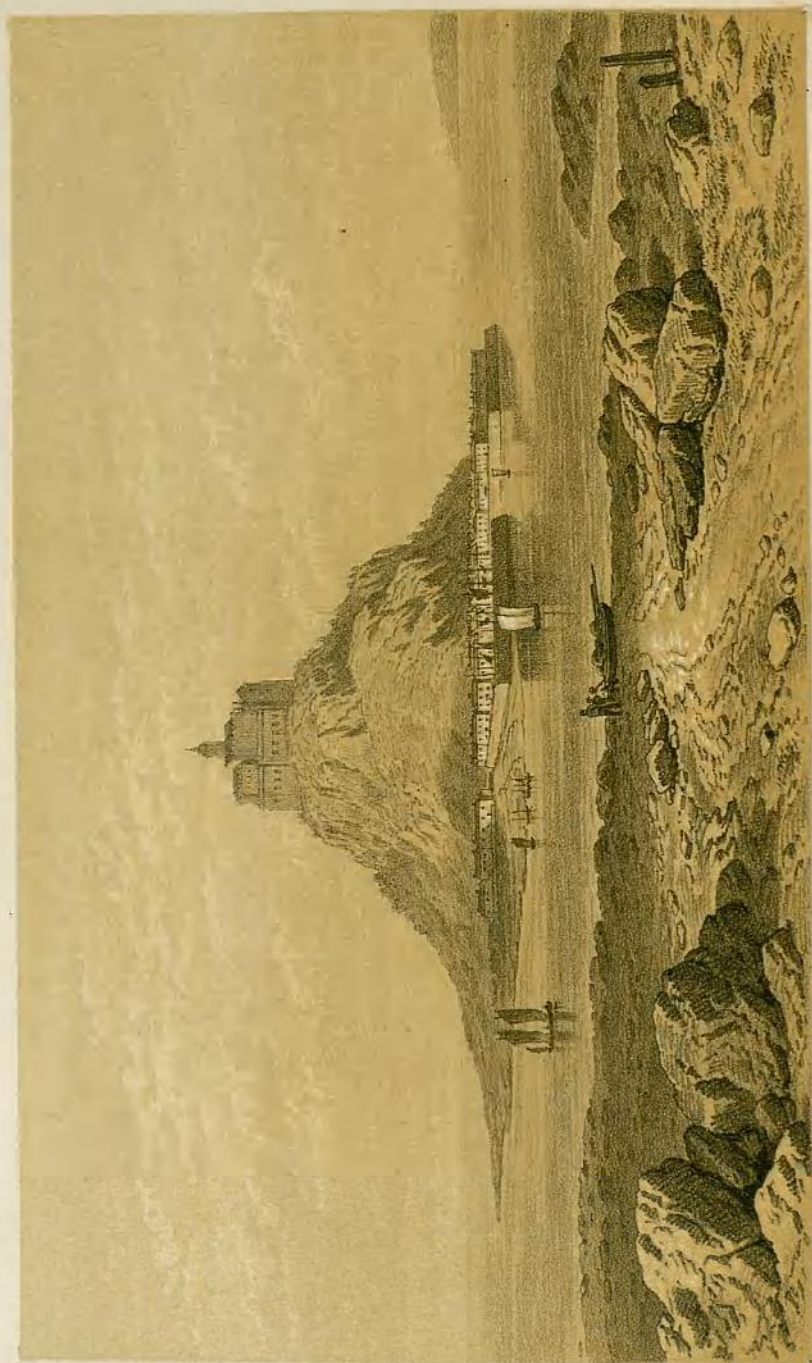
¹ This remarkable object has been previously noticed, and figured in Arch. Journ., vol. xxvi. p. 39, with some remarks

on other relics of Early Metallurgy in Cornwall.



Shardeloo & Co. Lith. London

ST MICHAELS MOUNT, AT LOW WATER.



Published by A.C. & Co. London.

ST MICHAEL'S MOUNT, AT HIGH WATER.

Rhone." Sir George Lewis then goes on to say, "Timæus mentioned an island Mictis, within six days' sail of Britain, which produced tin, and to which the natives of Britain sailed in coracles."

Dr. Barham, in his Memoir on the Ictis of Diodorus Siculus, in the third volume of the Transactions of the Royal Geological Society of Cornwall, p. 91, says:—

"In this case almost all parties agree both that there is one, and also that there is only one, spot which at all answers to the description of the Iktis, viz., St. Michael's Mount." And again, at p. 92:—"But in order to do justice to our argument, it will be proper to consider somewhat more particularly what kind of place the Iktis must needs have been, and what, therefore, must be required in its representative.

"It appears that it was chosen by the ancient merchants as the seat of a factory; they had their establishment on it for purchasing, receiving, and warehousing their tin, previously to its being shipped; and, finally, it was here that they put it on board for exportation.

"What, then, may we conceive the advantages which recommended this spot to their choice? We may naturally suppose, in the first place, that it was one which afforded security against sudden attack, and was capable of effectual defence; for in the rude state of society then existing amongst the natives, such precautions would be far from superfluous. But a matter of still more urgent necessity was to possess a commodious port for the shipping; this was an indispensable condition, and we may therefore be certain that the little island of Iktis was distinguished by this advantage. It was, moreover, necessary for their purpose that it should be conveniently situated with respect to the mines; some considerable mining districts must no doubt have been in its neighbourhood. Finally, to render the foregoing advantages available, we must suppose that the adjoining shores were accessible and gentle, for down precipitous crags and cliffs carts laden with tin could never go. Such, then, was the Iktis, a little island, not very remote from the Land's End, and combining in itself all the characteristic circumstances above detailed, and which are certainly not, in many instances, to be found united. Such, however, in every particular, is that little island which, at

this very day we behold in our bay, St. Michael's Mount. That this is admirably adapted for defence is obvious. It is a port which we daily see frequented by numerous vessels, and cargoes of tin are still sometimes taken on board there, after having been transported in carts across the isthmus." See the two views of the Mount here given.

With a place agreeing so fully in every particular with the description of the Ictis given by Diodorus, one is at a loss to imagine why so many writers should trouble themselves to look elsewhere for it. But it is contended by some, that because the remains of a forest are found in the Mount's Bay, below the level of the sea, and because the ancient Cornish name of the Mount is, "The hoar rock in the wood;" therefore at the time it was so named, and at the time when Diodorus wrote, about nine or ten years B.C., the Mount must have stood on a plain surrounded with trees, and the description of its being an island at high water and a peninsula at low water would not apply to it. This objection is easily disposed of: it is quite true that there are the remains of a forest in the Mount's Bay, but similar remains are found in almost every bay or estuary all round the coasts of Great Britain and Ireland, and on the opposite coast of France, and they prove that, speaking geologically, the whole area has been recently depressed, although, as we can prove, not so recently as the period when Diodorus wrote. Similar remains of forests, for example, are found in Portsmouth harbour and in Southampton water, but the Roman works at Porchester in the former, and at Bittern Manor in the latter, are placed on low peninsulas, and the works are obviously designed with reference to the present configuration of the land and the present level of the sea.

We also know from the coins which have been found at Bittern Manor, near Southampton, that the Roman station there (Clausentum) was established as early as the time of Diodorus, and was occupied by the Romans for near 400 years afterwards, and consequently that the depression of the large area referred to, including that at the Mount's Bay, took place long before, and probably thousands of years before he wrote.

Besides which there are trees growing on the Mount, and in sufficient number to have justified the ancient descriptive name of "The hoar rock in the wood."

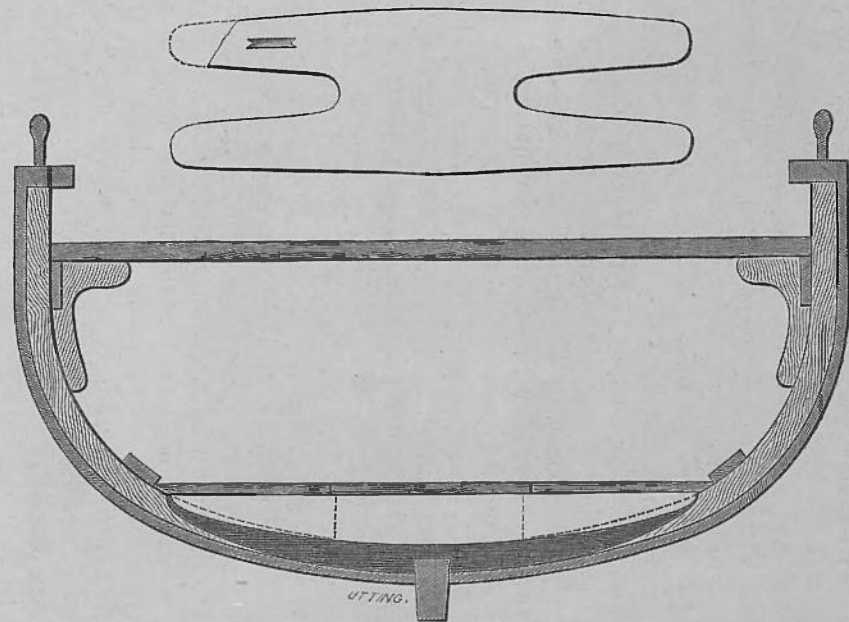
The form of the block of tin which was dredged up in Falmouth harbour is best understood by the annexed illustrations. See the woodcut, where it is shown in plan and in section. It is 2 ft. 11 in. long, 11 in. wide, and 3 in. thick at the centre, perfectly flat on one side, but curved on the other, and having four prolongations at the corners, each 1 ft. long. The weight (in its present state) is 158 lbs.

It is said by Diodorus that the inhabitants of the promontory of Belerium (the most western part of Cornwall) cast the tin into the form of astragali, "*ἀστραγάλων ρυθμούς.*" I have the authority of Professor Owen for saying that this peculiar form of the block was properly described by Diodorus as in the form of an astragalus, or knuckle-bone, and that an astragalus is, in fact, the type of such a form—this alone gives a peculiar interest to this block of tin.² But we are naturally led to inquire why this peculiar form was selected for the blocks. We are told that the traders resorting to Ictis there buy the tin from the natives and carry it to Gaul, over which it travels on horseback in about thirty days. It was therefore necessary that the blocks of tin should be cast in such a form, and be of such a weight, as to be conveniently carried both in boats for transport to Gaul, and then on horseback for the journey overland; and it is impossible to look at this block of tin without being struck with the admirable adaptation of the form and weight for this double purpose, and also for the purpose of being easily carried by hand by two men, or slung for lifting it either into or from a boat, or on and off a horse.

This is seen at a glance by the accompanying diagram: the curved surface of one side of the block exactly fits the curve of the bottom of a boat, whilst the flat plane surface of the other sides would form a continuous level floor to the boat, which being covered with bottom boards would entirely conceal the valuable cargo beneath. Again the ribs of the boat, coming up through the divided ends of the block, would prevent the possibility of any shifting of the cargo when the boat was pitching or rolling in the sea, and the blocks resting on the keel and ribs of the boat would prevent any strain upon the planking when the boat was run ashore

² The astragal stamped on this block of tin, is most probably the trade-mark of a particular merchant or trader in tin. Each

of the Greek merchants engaged in the tin-trade would require his own mark, as the merchants have at this day.



Plan of the Block of Tin, and Section of a boat with the block placed in it.

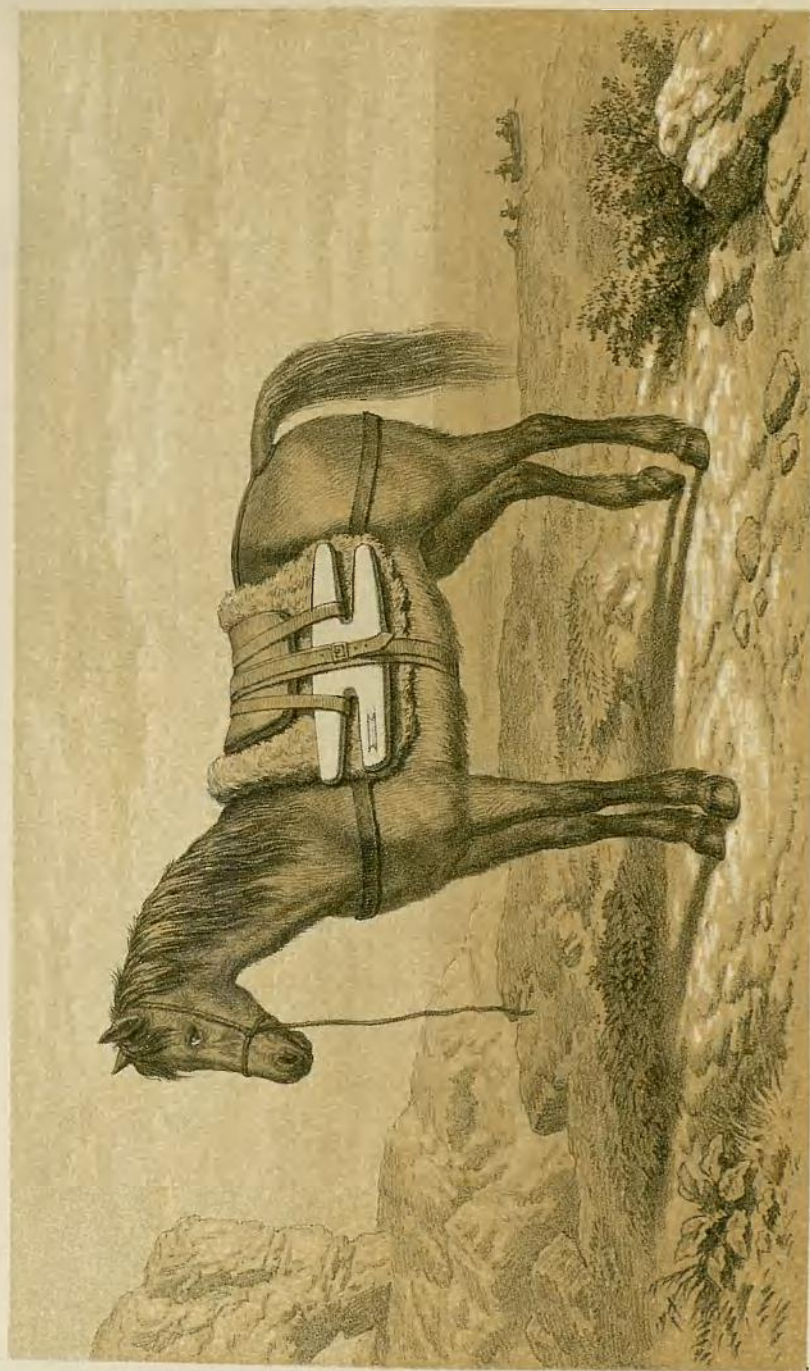


Illustration by A. L. Lath. London.

HORSE CARRYING BLOCKS OF TIN ACROSS GAUL.

and grounded. As ballast to the boat when under sail, the blocks are in the lowest and best possible position.

Arrived in Gaul and disembarked, we see that the weight, about 160 lbs., is just the proper weight for a horse having to carry two of them on a pack-saddle, and the form is so nicely adjusted and the weight so judiciously distributed as to enable the horse to carry them with the least fatigue, whilst a single sling over the pack-saddle, with two blocks of wood on the trees of the saddle, would perfectly secure it on the horse.

It is impossible to look on this block of tin, and see how admirably it is designed for transport both by land and water, without arriving at the conclusion that we have here before us one of the astragali described by Diodorus, and seeing the perfect and most remarkable agreement of his description of Ictis with St. Michael's Mount, can we doubt, that it was from that place that this block of tin was embarked? The boat on its voyage coastways to Boulogne, or one of the nearest ports of France to England, was probably swamped at the entrance to Falmouth harbour, whilst endeavouring to gain the shelter of the inlet at St. Mawes.

That the Ictis of Diodorus was the same place as the Mictis of Timæus, is made evident from the fact that it is the only island where tin is produced, and it would be just a six days' passage, under ordinary circumstances, from Dover or Hythe to St. Michael's Mount, allowing for a progress of fifty miles a day. The distance from Boulogne to Marseilles is also just what could be travelled by loaded horses in thirty days, allowing from eighteen to twenty miles for each day's journey.

I do not think it necessary to discuss the claims of the Isle of Wight to be considered the Ictis, as the description of the place by Diodorus does not now, and could not at any time, have applied to it in any one particular.

The following passage in the late Sir George Cornewall Lewis's work "*Astronomy of the Ancients*," p. 453, led many to imagine that he was of opinion that the Ictis of Diodorus was the Isle of Wight:—

"The Mictis of Timæus and the Ictis of Diodorus are probably variations of the name of Vectis, by which the Romans designated the Isle of Wight."

But in the letter from this distinguished statesman and

scholar, of which the following is a copy, he distinctly denies that such was his opinion, and that he was satisfied that St. Michael's Mount was the Ictis :—

“Kent House, Knightsbridge, June 16, 1862.

“MY DEAR SIR HENRY,—I am much obliged to you for sending me the full and satisfactory information about the ancient Cornish tin-trade, and for the trouble which you have taken in the matter.

“The passage in my volume was not intended to convey the meaning which you attributed to it. All that I meant to say was that the *names* Mictis and Ictis were variations of Vectis, and arose from a confusion with that name. My impression was that *both* accounts were fabulous, and arose from the tendency to multiply islands, to which I have elsewhere adverted (see p. 465). The coincidence of the account of Diodorus with St. Michael's Mount is however so close that it cannot be accidental, and the circumstances mentioned by Dr. Barham satisfy me that it was the port from which the tin was shipped for the coast of Gaul. Your explanation of the block of tin is curious and ingenious, and affords a strong confirmation to the hypothesis that tin reached the Mediterranean by the overland route across Gaul, and was not carried round by the Straits of Gibraltar.

“I understand that a model of this block is in the Jermyn Street Museum.

“Believe me, yours very truly,
(Signed) “G. C. LEWIS.

“Col. Sir H. James, R.E.”

In the Report of the Royal Institution of Cornwall for 1863 a communication will be found from Mr. Richard Edmonds on “St. Michael's Mount and the Phœnicians,” in which he contends that the translators of Diodorus—English, French, and Latin—have improperly changed the name Iktin, as we find it in Diodorus, to Iktis, and that Iktin in the Cornish language simply means the Tin-port.

H. J.