

garden, where the famous trees, their leaves and branches as well as their fruits, were resplendent with gold.

It was not, according to M. Antichau, the Greek, but the Phœnician, Hercules, Melkarth, who set out in search of the garden. The former lived in the time of Priam, whilst the latter, more ancient, flourished fourteen centuries B. C. After extraordinary exploits, Hercules arrived before the entrance of the garden. His passage was barred by a horrible dragon, having one hundred heads, with eyes open day and night; from every head escaped a distinct roar. Deceiving the monster's vigilance, Hercules smashed its heads, carried off the apples, and took an overland journey home, across Southern Europe.

Stripped of fable, the matter of fact is this: Hercules represented the Phœnician race, whose enterprises were bold; mistress already of the Mediterranean, Tyre desired also to reach the ocean, and, to arrive there, had to resort to tact, cunning, and audacity, to overcome the obstacles—human as well as material. The slaying of the material monster was, on a par, like the isthmus connecting the Mediterranean and the Red Sea—attempted to be opened by Rameses, Darius, and Ptolemy. The golden apples were supposed to be simply oranges; that tree, whose crown is at once composed of fruit and flower, being apparently unknown to the ancients. Pliny makes no allusion to it.

The daughters of Atlas grew oranges, and traded in them, and at gathering-time sang joyfully—like all harvesters, and hence why they were mistaken for sirens, for the garden was situated at Hyères, following some. However, later authorities place the garden on the Guinea Coast of Africa. To reach it, Hercules had to brave the Ocean, kill the Hydra, and pass through the Straits of Gibraltar, and it is presumed that the golden apples—dropping the figurative—mean gold dust or nuggets. Hercules was the personification of the Phœnicians, trading to the African gold coast, the Gambia, and the Niger.

It was their reputation for their metallic riches that attracted the many invasions of the Atlantes and the Iberians, and Hercules simply went in turn to seek, neither apples nor oranges, but gold nuggets, and to this day, the "Poules," the descendants themselves of the ancient Atlantes or Libyans, bring down to the coast pellets of gold in exchange for merchandise. The ore was formerly transported to the coast, to be crushed and washed through sieves filled with water, according to Strabo; or in vessels, following Herodotus. Women were employed to gather the pellets, with feathers smeared with pitch, as modern "washers" employ mercury; they whiled away their time, singing like sirens, hence became the Hesperides, with sonorous and harmonious voices.

ADMIRAL DE LA GRAVIERE maintains that the history of nations is the history of their arms. He points out that the fate of the world on three occasions hung on the issue of a naval battle—Salamis, Actium, and Lepanto—and it would well happen, judging from the tendencies of modern naval constructions, the same may occur again. The 7th of October, 1571, witnessed the overthrow of the maritime supremacy of the Turks. That Battle of Lepanto was the fortuitous concurrence of two navies, almost equal in numbers and encountering within a narrow arena—already celebrated by the sanguinary struggles of Octavius and Antony, Doria and Barberossa. The total combatants numbered 172,000, of whom 85,000 were Christians. The losses of the victors were known to be 15,000, and those of the defeated were estimated at 60,000.

The Turks said of this defeat, which for ever deprived them of the Empire of the Seas, "the Christians have only shaved our beards." But the beard has never since grown. The battle commenced at noon, and finished at twilight. It was virtually decided in the course of one hour, and would not have been prolonged had not Doria, like his grand-uncle in 1538, adopted too subtle tactics engendering confusion. It is not only on land that masses of combatants will concentrate; on sea, great powers will henceforth attack by thousands of ships and of all dimensions. The sea too, henceforth, will have its battalions, and the Admiral recommends not to quit too readily beaten paths—the old tactics. The power that shall know how to separate judiciously from the traditions of the past will appear on the nautical scene with all the advantages of a Bonaparte at Montenotte and Rivoli. The old captains will remain amazed at the new-fangledness, as did the Austrian generals dumbfounded and crushed by the audacity of General Bonaparte.

THE Letters of M. Bikélas give a very clear account of the present condition of Greece, when the kingdom is about staking its very life on a cast, and will stand the hazard of the die. About powerfully contributed to render Greece unpopular. For him she was a whited sepulchre, the fatherland of theatrical bandits and picturesque blacklegs. Hence why no altars have been raised to him. However, since thirty years matters have changed; for example, Athens, Corinth, Patras, and Argos are now con-

nected by rail. The author never separates history, topography, and ethnography. He visited Ithaca, but in the capital encountered only one specimen of Penelope's graceful countrywomen. On an islet near Souli reside fishermen who fabricate the *prêvesa*; the latter being the salted eggs of the mugil preserved in wax. Arta is remarkable for its legendary bridge, its solidity being due to the contractor having enclosed his wife, living, inside the foundation stone, instead of old coins and copies of the newspapers, to appease the anti-architectural spirits. This explains why a cock is sacrificed when laying the foundation stones of buildings in Greece. Convalescents also sacrificed a cock to Æsculapius. In Greece the traveller walks on a carpet of wild thyme and marjoram.

Missolonghi is "a very little village, built in mud and on the borders of a lagoon." Byron's boatman, Kazis, still pursues his ordinary calling, and the poet's tomb is well kept, beside the Ossuary containing the bones of the patriots of 1822. Greek is rapidly superseding the Italian tongue in the Archipelago. At Patras there is an Egyptian colony, living quite apart, and dating back to the earliest relations between the Nile valley and Greece; perhaps when Atholes and Cadmus occupied themselves with "letters."

ZERO.

SCIENTIFIC JOTTINGS.

It is not always the most important work that creates the most sensation. For two seasons past, and for a few weeks of a third, a hydrographic survey of the Georgian Bay has been in progress; yet very little has been known of it, though its results will be of the utmost practical benefit to our inland marine. It is true that this body of water was surveyed, in common with the whole of the coasts of the Dominion, fifty years ago or more, by the lately deceased Admiral (then Lieutenant) Bayfield, and in a wonderfully complete manner, considering the time at his disposal for the vast extent of country traversed; but his work has proved not sufficiently accurate for the increased shipping interests of to-day. Consequently the matter was brought before Parliament three years ago, and the Marine Department was instructed to re-survey the Georgian Bay, which may be characterized as the most dangerous of our inland seas. Our Government obtained from the British Admiralty the services of Staff-Commander Boulton, R.N., who, assisted by Lieutenants Stewart and Campbell, graduates of the Royal Military College, and working with a steam propeller and a boating party, has already finished the east coast of the Bay and the North Channel as far west as Clapperton Island. I have seen the proof of a chart embodying the work of 1884, which is about to be published by the British Admiralty, and which plainly shows the necessity for this survey. The district embraced extends from Cove Island to Cape Smith, and eastwardly to Cabot's Head, and locates in the most graphic manner the numerous shoals in the "gap" or entrance to the bay, as well as many dangers not hitherto known to have existed. The work done this year will be incorporated in a second chart.

On Lake Erie, also, navigation has been improved in another way. Down the Detroit River, bound for eastern ports, passes a surprisingly large tonnage, and all the vessels have to run the gauntlet of an intricate nest of sandbars outside the mouth of the river, and sixteen miles down the lake must pass close by a hidden reef off Colchester. Both of these dangers have for years past been marked by the Canadian Government by lightships, but moored vessels are very uncertain guides compared with permanent structures, and consequently have during the past season been replaced by lighthouses, the erection of which, in localities so exposed to the full force of the lake storms, has involved some very pretty problems of marine engineering. That off Bar Point, at the mouth of the river, was erected by the United States Government, and consists of a large boat-shaped pier of solid masonry, standing on a gravel and clay bottom in twenty-two feet water, and surmounted by a magnificent iron tower, from which a flashing white light is shown. A powerful steam fog alarm is also provided to supplement the light in thick weather.

The lighthouse on Colchester Reef has been erected by the Canadian Government. A circular pier of masonry rises twenty feet above the water from the solid rock, that lies twelve feet below the surface. This pier is surmounted by a handsome wooden tower, and a brilliant fixed white light is shown from an apparatus made by Messrs. Chance, of Birmingham. The fog alarm will be a bell, struck by machinery.

THERE is evidently a "boom" in bridges and tunnels in Canada. Besides those I have already referred to, others are in contemplation. A contract has been let for the construction of a bridge across the St. Lawrence at the Lachine Rapids, which, it may well be imagined, is a serious undertaking. The bridge will be a steel truss structure, having, in addition to ten deck spans, two cantilever spans, each 410 feet in the clear, over the navigable portion of the rapids. This will involve the sinking of a pier in about forty feet water in a very swift current, a sufficiently hazardous enterprise under any circumstances, but especially so when the element of time has to be considered, the contractors having undertaken to complete the work by next autumn.

With a view of exhibiting the state of Canadian engineering skill, the Department of Railways is having plans prepared, to be shown at next year's Colonial Exposition, of an immense cantilever bridge, for a site similar to that of the bridge proposed to be erected at Cap Rouge above Quebec, an English design for which was figured in the *Scientific American* of the 30th of May last. Such a bridge, if built, would not compare in length with