Since the establishment of the Biological Laboratory on Puffin Island, near to Beaumaris, under the directorship of Professor Herdman, systematic collections of material are made by tow-net day and night, and several new and rare free-swimming copepoda are already recorded; but the above new parasitic species seemed of such special interest that I ventured to describe it in your pages.

ISAAC C. THOMPSON.

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GOSSIP ON CURRENT TOPICS.

By W. MATTIEU WILLIAMS, F.R.A.S., F.C.S.

REMARKABLE ADULTERATION. — The following is from the columns of a popular periodical: "Materials, often largely ferruginous, are employed in the manufacture of glass for bottles, and the acids in wine act very powerfully upon these constituents, the consequence being that the liquid gets thoroughly impregnated with a solution of magnesia, or something very detrimental to the juice of the grape. When the wine thus affected, is drunk, it is found to be a sour, more or less nasty concoction."

The chemistry of this is very wonderful. The impregnation of the wine with a solution of magnesia as a consequence of the action of its acid upon ferruginous materials presents a clear case of the transmutation of metals, and the souring of the wine by the using up of its acid is another blow to modern chemistry, one of its fundamental doctrines being that an acid cannot exert its solvent or combining energies without becoming proportionally neutralised.

ELECTRIC FISHING. — One of Tidemand's pictures in the Norwegian Summer Palace of the King of Sweden and Norway (Oscar's Hall, near Christiania), represents a peasant family spearing salmon at night in one of the fjords. A blazing fire of pine knots, or other resinous wood, is made on an overhanging cage at the prow of the boat. This light is an object of interest to the fish. While they are engaged in their investigations of the unusual phenomenon, the fatal blow is struck and they share the fate of Archimedes.

The "Scotsman" tells us that experiments are in progress in the Firth of Forth, in which the electric light is to be substituted for the glare of the wood fire as a means of piscatorial seduction. Electric lamps were sunk to a depth of forty or fifty fathoms, but the pressure of water was too great for the glass globes, which although very thick were broken by the pressure of the water. The account I have states that the glass was ⅜ of an inch thick, but the size of the globes is not stated. An arc light of six thousand candle-power is described as having been used, and that further trials with stronger globes are to be made. If I dared to make a suggestion it would be to proceed more modestly at moderate depths. The Norwegians work on the surface for the lake trout and salmon. I have caught cod-fish as fast as I could haul them up by bottom fishing at five or six fathoms, and see no good reason whatever for trying such depths as forty or fifty.

THE PROPAGATION OF CHOLERA. — Certain Frenchmen have accused us of carrying cholera from India to Europe through the Suez Canal, in spite of the fact that it visited this part of the world long before the canal was made. The last visitation has been singularly fatal to this theory, according to which the cholera should follow the course of the East India ships, and therefore should make its European debut in London. Instead of this, London has escaped altogether, while Paris, and other large towns of France, Italy, &c., have suffered severely.

Herr Pettenkofer referred to this in his address to the International Hygienic Congress at Vienna, and asked the question: "Why do the English, in spite of their enormous traffic with India, where cholera is never extinct, not transfer the disease to their own country?" He replies that England's immunity from cholera is not owing to quarantines and other expensive obstructions to international traffic, such as vainly exist in Italy, France, Spain, Russia, &c., but to superior cleanliness, and attention to the removal of sewage. He adds that the general statistics of the mortality of London show that our proverb "cleanliness is next to godliness" is well founded, and that hygienic piety has been rewarded by the heavens.

ALUMINIUM.—We may hope that, ere long, useful alloys of this metal will become cheaper. In spite of the difficulty of obtaining the metal itself, M. G. A. Faurie has devised an easy and inexpensive method of obtaining it in alloy with other metals. Two parts of finely powdered alumina with one of petroleum, or other hydrocarbon, are worked into a paste well kneaded, and one part of sulphuric acid added. When the mass becomes homogeneous, with a uniform yellow colour and begins to liberate sulphuric acid, it is put into a paper bag and raised to a good red heat in a crucible. The reduced product thus obtained is finely powdered and mixed with about its own weight of the metal (also in powder) with which it is to be alloyed and raised to a white heat in a crucible. We are told that on cooling after this, more or less rich grains of aluminium alloy will be found in the middle of a black metallic powder. I have not learned whether this black powder can be fully reduced and utilised by further treatment with carbon or hydro-carbon. If so the whole process is simple enough, and cheap enough, to afford good supplies.

THE UNIVERSAL SOLVENT.—The old alchemists sought for three great arcana, the philosopher's stone,

of an orange colour. Here the yellow paper reflects red, yellow, and green rays into the eyes; but the sensation of green is worn out and we perceive only the red and yellow rays, and these we know give rise together to the sensation of orange. Or, placing a slip of black or green paper on red paper, so as to shield part of the retina from the red rays, then on removing the slip an image of it is seen on the red ground, the image being of a brighter and more intense red.

The greatest contrast is obtained when the two colours are complementary to each other. Somewhat prolonged observation of such colours gives rise to a glimmering or lustrous appearance, which is the leading feature of another common advertisement.

An experiment of Helmholtz furnishes an example of the deception to which our visual judgment is liable. He directed two beams of light, one ordinary daylight, and one candle-light, on to a white screen, and interposed an upright rod, so that two shadows were cast on the screen, one in each beam. After adjusting the lights till the shadows were of the same depth, he found that one appeared yellow, namely that cast in the beam of daylight, and the other blue. In this experiment the whole screen is really a pale yellow, being illuminated by a mixture of white light and yellow candle-light, but we accept it as white; the consequence is that the shadow of the rod in the beam from the candle, which shadow is really pure white or grey since it is illuminated by daylight only, looks blue by comparison.

Another experiment which depends on our mistaken visual judgment consists in placing a small strip of grey paper on a brightly coloured paper and covering them with a sheet of tissue paper. The grey strip seen through the tissue paper appears of a complementary colour to the ground colour, and sometimes even more intense. This is a case of contrast between two greys, and the contrast effects are more marked than in the case of more intense colours.

A NEW PARASITIC COPEPOD.

I LATELY received from Mr. H. Chadwick, of Manchester, a specimen of Sabella, from the sandy shore at Beaumaris, N.W., which appeared to be infested with Copepoda. They were found attached to the gill filaments, to which they clung so tenaciously that it was difficult to remove them for examination without injuring the filament of the worm their host. The worm occurs in large numbers on the beach at Beaumaris, and several specimens taken were all found to be infested with the little Crustacean.

Microscopical examination clearly shows it to belong to the genus Lichomolgus, family Sapphirinidæ (Thorell), but it differs in many important points from any hitherto known species. I propose to name it *Lichomolpus sabellæ* (Fig. 15).

Its length is about $\frac{1}{12}$ inch, and with even a pocket lens it is readily distinguishable by its long narrow ovisacs and remarkable antennæ. The body is elongated; the first segment being about half the entire length of the cephalothorax which is of ovate form. The abdomen is composed of five joints: the first joint being in length equal to the remaining four joints, and proportionately broad. In the male, its lower angles are produced into two sharp narrow spines. Rostrum short and beak-shaped. Anterior antennæ (Fig. 17) seven-jointed, the two basal joints much longer and broader than the rest, and roundly serrated on the outer margin. All the joints are clothed with strong spinous setæ.

Posterior antennæ (Fig. 16) four-jointed, and very powerful; the second joint is provided with four small curved hooks placed longitudinally, and the apical segment has four large strong curved hooks, in shape much like shepherds' crooks.

The posterior foot jaws vary in the two sexes. One of the first four pairs of swimming feet is shown in Fig. 18. The fifth pair are alike in both sexes, and are composed of one joint, with a long and short strong spinous seta at apex. The animal is of a greyish-brown colour.

Fig. 15.—*Lichomolpus sabellæ* ♀.

Fig. 16.—Posterior antennæ of *Lichenmlpus sabellæ*.

Fig. 17.—Anterior antennæ.

Fig. 18.—Pair of Swimming Feet.

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