CORRESPONDENCE.

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. No notice is taken of anonymous communications.*]

MICROSCOPY.

To the Editor of "SCIENCE:"

Dear Sir:—I am authorized by the President of the American Society of Microscopists to announce to its members, and to all others who may be interested, that the Executive Committee have decided, by an almost unanimous vote, to accept the invitation received from the Tyndall Association of Natural Science, of Columbus, Ohio, and to call the next meeting of the Society at that place on Tuesday, August 9, 1881, (the week previous to the meeting of the American Association for the Advancement of Science, at Cincinnati).

Permit me to add a word upon another matter. The proceedings of the American Society, which should have appeared two months ago, have been unavoidably delayed by circumstances which I shall explain to members at the time of issuing the volume. The latter is now in the press, and will be sent out before the end of the month. ALBERT H. TUTTLE, Sec'y.

COLUMBUS, Ohio, *March* 1, 1881.

BOOKS RECEIVED.

BACTERIA. BY DR. ANTOINE MAGNIN, General Secretary of the Botanical Society of Lyons, &c., &c. Translated by George M. Sternberg, M. D., U. S. A. Boston—Little, Brown, & Company. 1880. Price $2.50.

The present translation of Dr. Magnin's work by Dr. Sternberg will be welcome in all English speaking countries, and we trust its circulation may remove much of the ignorance which exists on this subject, among a large class of professional men, who would perhaps be ashamed to confess their want of knowledge.

Among physicians Dr. Magnin's work on the Bacteria should find a wide range of readers; to many it will read like a revelation, and may be the means of developing original ideas, which may give them a fresh impulse in their profession.

It has been a hard struggle with Nature, accompanied by the greatest difficulties, to solve the many problems involved in the phenomena attributed to Bacteria. One hundred and fifty years have passed since Leeuwenhoek, the Father of Microscopy, wrote the first paper on the subject, and Dr. Magnin occupies thirty-one pages of his work in recording a Bibliography of the works of those who have since contributed papers.

By the aid of this large amount of literature treating on Bacteria, supported by his own experience, Dr. Magnin has produced a work, a careful perusal of which will greatly reduce the difficulties of further investigations in solving the many problems still waiting for solution.

A full classification of the genera and species of Bacteria is given, with sufficient descriptions of their forms and characteristics to make their identification an easy task, and although this classification is merely provisional, its practical utility for student's work is not impaired.

We observe ten full-sized plates of engravings, each having from four to twenty-two illustrations of Bacterian forms.

No person possessing a Microscope should be without this book, and it should be closely studied by every physician.

The temptation is great to enter into a description of the varied contents of the work, but the subject is too intricate to be disposed of in a short paragraph and must be reserved for future treatment.

Bacteria are of all beings the most widely diffused; we meet with them everywhere, in the air, in the water, upon the surface of solid bodies, in the interior of plants and animals. They are the cause of disease, and the great agent in putrefaction, and yet the continuance of life on this globe would not be possible without them; they are so minute that some defy measurement with the highest powers of the microscope, but they become a mighty factor in the economy of creation by reason of their wonderful powers of reproduction, for in twenty-four hours the product of a single bacterium by division amounts to sixteen millions of individuals, and at this rate the ocean itself—calculating it equal to two-thirds of the terrestial surface, with a mean depth of one mile, equalling 920,000,000 cubic miles---would be filled with Bacteria in five days from a single germ, supposing the multiplication to be continued with the same conditions.

Fortunately researches of microscopists have brought to light facts regarding these organisms which enable man to control their prodigious reproductive powers, and our knowledge relating to Bacteria will probably at length be acknowledged as one of the greatest victories of modern science.

NOTES.

A PROCESS FOR THE TOTAL DESTRUCTION OF THE ORGANIC MATTERS IN THE DETECTION OF POISONOUS MINERAL SUBSTANCES.—From 100 to 500 grms. of the suspected matter are mixed in a large porcelain capsule with one-fourth its weight of the acid sulphate of potassa, and then with its own weight of fuming nitric acid. The action is very violent at first, and requires afterwards the aid of a slight heat. Here it is proper to stop if it is merely needful to search for arsenic or antimony. A large excess of pure concentrated sulphuric acid (1.845 sp. gr.) is then added, and the mixture is heated to near the boiling point of the acid. More acid is added from time to time till the mixture becomes pale and limpid. To complete the destruction of the last traces of organic matter it is well to let the liquid cool, add a few crystals of pure potassium nitrate, and heat again till abundant white vapors of sulphuric acid are evolved. The saline mass when cold is dissolved in boiling water, made up to 1 litre, and without previous filtration it is submitted to electrolysis by means of 4 Bunsen elements or a Clamond gas-battery. The negative platinum electrode becomes covered with a grey, blackish, or metallic coating. The action should be prolonged for twenty-four hours. If mercury is suspected a plate of gold should be used at the negative pole instead of platinum. If arsenic or antimony is sought for before the addition of the sulphuric acid, the carbonacious mass is cooled, powdered, and treated with boiling water. The solution thus obtained is examined as proposed by Dr. A. Gautier. (*Comptes Rendus*, August, 1875).—A. G. POUCHET.

DETERMINATION OF CARBONIC ACID IN THE AIR.—The authors, after referring to the discordant results obtained in the determination of atmospheric carbonic acid, describe their method. The carbonic acid is fixed by an absorbent body, from which it is afterwards set at liberty and measured by volume. As an absorbent they use pumice stone saturated with solution of potassa, and contained in a tube drawn out at both ends. The tubes are washed with sulphuric acid, filled with small fragments of pumice, calcined with sulphuric acid, and introduced while hot. The pumice is saturated with a given volume of potassa lye, operating in air deprived of carbonic acid. The lye is prepared by dissolving 1 kilo. potassa in 1.400 litres of water, and adding 200 grms. hydrated baryta to remove sulphates and carbonates. The tubes, prepared beforehand and sealed, are opened at the place of operation, and sealed again after 200 litres of air have been passed through.—A. MUNTZ and E. AUBIN.

RESIDUES FROM THE MANUFACTURE OF OILS FROM SCHISTS. The solid residues serve for the manufacture of alum, and may become an important source of lithia. The acid tarry matters contain sulphates of the bases of the pyridic series, especially of corindine, rubidine, and viridine. Aniline is not sensibly present. The insoluble portions and the alkaline tars contain peculiar phenols, thymols β and γ. There is no ordinary phenic acid, and very little thymol a.—GASTON BONG.