syrup, two ounces of finely powdered sugar are to be added, mixed well with it, and the whole is then to be spread out in the air to dry. The sugar locks up the volatile parts of the coffee, so that when it is dry they cannot escape.

Ground coffee prepared in this way, and which lay exposed to the air for one month, yielded, on being boiled, as good a beverage as one made from freshly roasted berries.

I have described the mental influence of tea and coffee; much could be written on their influence upon modern society and civilization.

Anne Boleyn makes mention in one of her letters of having partaken of half a pound of bacon and a quart of beer for breakfast; now, after making due allowance for custom and habit, it must be confessed that modern ladies must rise from their morning meal of a cup of coffee with some bread and butter and an egg, with many different sensations and sentiments to those experienced by the fair Queen after her more masculine repast.

BACTERIA IN THE AIR.

M. Miquel has succeeded in seizing and numbering the spores or eggs of bacteria, and while confirming M. Pasteur's observation, that they are always present in the air, shows that their number presents incessant variations. Very small in winter, it increases in spring, is very high in summer and autumn, then sinks rapidly when frost sets in. This law also applies to spores of champignons; but while the spores of moulds are abundant in wet periods, the number of aërial bacteria then becomes very small, and it only rises again when drought pervades the soil, a time when the spores of moulds become rare. Thus, to the *maxima* of moulds correspond the *minima* of bacteria, and reciprocally. In summer and autumn, at Montsouris, one finds frequently 1,000 germs of bacteria in a cubic mètre of air. In winter the number not uncommonly descends to four and five, and on some days the dust from 200 litres of air proves incapable of causing infection of the most alterable liquors. In the interior of houses, and in the absence of mechanical movements raising dust from the surface of objects, the air becomes fertilizing only in a volume of 30 to 50 litres. In M. Miquel's laboratory, the dust of five litres usually serves to effect the alteration of neutral bouillon. In the Paris sewers infection of the same liquor is produced by the particles in one litre of air. These results differ considerably, it is pointed out, from those published by Tyndall, who says a few cubic centimètres of air will, in most cases, bring infection into the most diverse infusions. M. Miquel compared the number of deaths from contagious and epidemic diseases in Paris with the number of bacteria in the air during the period from December, 1879, to June, 1880, and certainly, each recrudescence of the aërial bacteria was followed at about eight days' interval by an increase of the deaths in question. Unwilling to say positively that this is more than a mere coincidence, he presents further observations regarding it. M. Miquel further finds (contrary to some authors) that the water-vapor which rises from the ground, from rivers, and from masses in full putrefaction is always micrographically pure; that gases from buried matter in course of decomposition are always exempt from bacteria; and that even impure air sent through putrefied meat, far from being charged with microbes, is entirely purified, provided only the putrid filter be in a state of moisture comparable to that of the earth at 0.30 metres from the surface of the ground.

The International Congress of Anthropology and Prehistoric Archæology holds its next meeting at Lisbon, on September 20-29, this year. Several important questions concerning the prehistoric archæology of Portugal will be discussed. Excursions will be made to several places of archæological interest.

DEYER'S ASTRONOMICAL RECORD.

MR. J. L. E. DEYER, of the Observatory of Trinity College, Dublin, has prepared and published *A Record of the Progress of Astronomy during the year* 1879.

This interesting digest is similar in every way to the summaries given for 1877 and 1878 by Professor Holden, in the *Annual Record of Science and Industry*. It was intended originally to add a bibliographical list of books and memoirs on Astronomy published during the year, but for various reasons this was left out. Such a list ought to embrace a longer space of time than a single year, and besides, the "Bibliographie Générale" the publication of which has recently been announced from the Brussels Observatory, is to include the year 1880. Mr. Deyer's paper therefore calls attention to such publications only as appeared to possess more than a passing interest. These are mentioned under the following heads: Spherical astronomy, theory of instruments, celestial mechanics, the sun, the moon, the inter-mercurial planet question, planets and satellites, comets, meteors and meteorites, fixed stars, nebulæ and clusters, photometry, history of astronomy, bibliography; observatories, miscellaneous notes.

Although the number of working observatories in this country is small, the present summary would indicate that these few had been reasonably active, since nearly one-third of the memoir (fifteen out of forty-seven pages) is devoted to the results of astronomical work done in the United States. O. S.

THE LATE MR. GREENE SMITH.

In regard to our statement in SCIENCE for July 31st, respecting Mr. Greene Smith's offer of his collection of specimens of birds to the American Museum of Natural History, we are reminded by Professor Burt G. Wilder, M. D., that shortly after the opening of Cornell University, in 1868, Mr. Smith presented that institution with a collection of 362 birds, mostly from North America, all perfect specimens and finely mounted.

We have authority for stating, that in regard to the present disposition of the late Mr. Greene Smith's collection, for the present, at least, it will remain in the possession of his widow. Mrs. Greene Smith informs us that she will devote her attention to making the collection as complete as possible, by the addition of the specimens now absent; and at some future time when she considers she has accomplished this task, she will present the collection to some institution, where it will be most appreciated, and do the greatest good.

THE use of steel for marine boilers has of late increased rapidly, but if the latest news from the Clyde is trustworthy, steel boilers have failed under the test, and have been condemned. Some eminent marine engineers refuse to use it, but several new passenger steamers have been fitted with boilers of steel, and a grave responsibility has been incurred by their owners.—*Eng. Mech.*