

SCIENTIFIC JOTTINGS.

The Rome correspondent of the *British Medical Journal* states that since the beginning of May Prof. Koch and his assistants have installed themselves at the Municipal Hospital of Grosseto, where they are continuing their researches on malaria. Grosseto is a town situated in the line between Genoa and Rome, and is surrounded by an extensive plain, which in olden times was the Lacus Prelius of Cicero. This lake gradually became a morass and caused malaria. By skilful drainage and other means, the Italian Government has converted nearly the whole of this morass into valuable pasturage, and has thus lessened greatly the malaria. It is said that Prof. Koch intends to go to South Africa to continue his studies there when he leaves Grosseto.

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Dr. L. O. Howard has recently summed up the good and bad qualities of insects so far as it is possible to do, and he finds that the insects of 116 families are beneficial, and the insects of 113 families are injurious, while those of 71 families are both beneficial and harmful or their functions have not been determined. The injurious insects are made up of 112 families which feed upon cultivated or useful plants, and one family, the members of which are parasitic, upon warm-blooded animals. Of the beneficial insects, those of 79 families are valuable as preying upon other insects, 32 families are of service as scavengers, two families are pollenisers, and three families as forming food for food fishes.

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In Anticipation of the total eclipse of the sun May 28, 1900, the United States Navy Department has arranged with the Secretary of the Treasury to have admitted free of duty the instruments of foreign astronomers who may go to the country to observe the eclipse. To this end, astronomers who contemplate an expedition to the United States are invited to notify the Superintendent of the Naval Observatory of the probable date of their arrival, with the name of the port at which they propose to disembark. The Superintendent of the Observatory will be glad to hear from each of the proposed expeditions, in order that he may render such assistance as lies in his power. The path of totality extends through a thickly settled portion of the country, including some principal cities. Facilities for transportation are excellent, but it is recommended that instruments be

securely packed and marked "delicate instruments—handle with care." The climate at that season is warm. The chances for clear weather are good.

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The Future of Liquid Air.—The first ounce of liquid air produced by Professor Dewar cost something like 600 guineas. A pint has since been obtained for 100 guineas. Mr. C. E. Tripler, of New York, has invented a method of getting it at about 10d. per gallon, and with his plant can make fifty gallons a day. He has magnificent anticipations as to the future use of liquid air. He argues that if a small engine can be operated by its aid, larger ones can be worked in the same manner. Plant for the production of air in the liquid form will supersede the use of boilers in engines, and coal, wood and water will be required no longer. Atlantic liners will at once be relieved of the enormous weight represented by these items, and the space devoted to coal bunkers will be very profitably utilized in other ways. Factories all the world over, it is said, will be run by air instead of by steam, and this source of energy can be drawn from a store which is inexhaustible.

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Dr. Edward Thorndike, of the Western Reserve University, U.S., has made some interesting experiments on mental fatigue. We are, says *The Globe*, used to think of the mind as a machine, and our inability to work as a sign of its loss of energy. Sleep is supposed to restore the energy, as an accumulator is re-charged with electricity. The incorrectness of this view might be questioned by the fact that mental action is too complex for such simplicity, and that some minds do not tire with large amounts of work. Dr. Thorndike's experiments show that certain persons are as fit for hard mental work after a day of it as in the morning, and seem to have no analogy with a charged accumulator. They indicate that desire of rest is due not from the running down of one factor, such as mental energy, or whatever we may call it, but rather because ideas of taking it easy, or feelings of boredom, sleepiness, or physical strain and discomfort cause us to desist from what has produced them. This tired feeling does not, however, correspond to loss of mental energy and capacity of work, because many have it who are quite able to work well. One is not a measure of the other; but nature warns us by the feeling not to work more some time before we are really unable.