

senses. It is impossible at present to say to what depth light penetrates in the sea. The photographic art will, no doubt, one day solve the problem. But it is almost certain that a limit is attained, and that, moreover, long before the deep recesses gaged by the sounding machines are reached, wherethe light-giving portion of the ray cannot penetrate even in its most attenuated condition; and yet, as shall hereafter be shown, creatures have been found down in those profound and dark abysses whose coloring is as delicate and varied as if they had passed their existence under the bright influence of a summer sun."

A REMEDY FOR SLEEPLESSNESS.—How to get sleep is to many persons a matter of great importance. Nervous persons, who are troubled with wakefulness and excitability, usually have a tendency of blood on the brain, with cold extremities. The pressure of blood on the brain keeps it in a stimulated or wakeful state, and the pulsations in the head are often painful. Let such rise and chafe the body and extremities with a brush or towel, or rub smartly with the hands, to promote circulation, and withdraw the excessive amount blood from the brain, and they will fall asleep in a few moments. A cold bath, or a sponge bath and rubbing, or a good run, or a rapid walk in the open air, or going up or down stairs a few times just before retiring, will aid in equalizing circulation and promoting sleep. These rules are simple, and easy of application in castle or cabin, mansion or cottage, and may minister to the comfort of thousands who would freely expend money for an anodyne to promote "Nature's sweet restorer, balmy sleep."

BATHING IN THE JORDAN.—The shore was muddy with the feet of the pilgrims, and the river so rapid that I hardly dared to get beyond the mud. I did manage to take a plunge in head-foremost, but I was forced to wade out through the dirt and slush, so that I found it difficult to make my feet and legs clean enough for my shoes and stockings; and then, moreover, the flies plagued me most unmercifully. I found that with them, bathing in Jordan has come to be much the same as baptism with us. It hardly means immersion. No doubt that they do take off their shoes and stockings, but they do not strip and go bodily into the water. —*London Review*.

STEAM PLOWING.—I cannot conclude this notice of the steam engine without observing the changes it is destined to effect in the cultivation of the soil. It is but a short time since it was thought inapplicable to agricultural purposes from its great weight and expense. But more recent experience has proved this to be a mistake, and ready in most districts we find that it has been pressed into the service of the farm. The small motive, mounted on a frame with four

wheels, travels from village to village with its attendant, the thrashing machine, performing the operations of thrashing, winnowing and cleaning at less than one half the cost by the old and tedious process of hand labor. Its application to plowing and tilling on a large scale is, in my opinion, still in its infancy! and I doubt not that many members of this association will live to see the steam plow in operation over the whole length and breadth of the land. Much has to be done before this important change can be successfully accomplished; but, with the aid of the agriculturist preparing the land so as to meet the requirements of the steam machinery, we may reasonably look forward to a new era in the cultivation of the soil.—*Id.*

CONSTITUTION OF THE SUN.—Our knowledge of the physical constitution of the central body of our system seems like'y, at the present time, to be much increased. The spots on the sun's disk when noticed by Galileo and his contemporaries, and enabled them to ascertain the time of its rotation and the inclination of its axis. They also correctly inferred, from their appearance, the existence of a luminous envelope, in which funnel-shaped depressions revealed a solid and dark nucleus. Just a century ago, Alexander Wilson indicated the presence of a second and less luminous envelope beneath the outer stratum, and his discovery was confirmed by Sir William Herschel, who was led to assume the presence of a double stratum of coals, the upper intensely luminous, the lower gray, and forming the penumbra of the spots. Observations during eclipses have rendered probable the supposition that a third and outermost stratum of imperfect transparency encloses concentrically the other envelopes. Still more recently, the remarkable discoveries of Kirchhoff and Bunsen require us to believe that a solid or liquid photosphere is seen through an atmosphere containing iron, sodium, lithium, and other metals in a vaporous condition.

We must still wait for the application of more perfect instruments, and especially for the careful registering of the appearances of the sun by the photeliograph of Sir John Herschel, so ably employed by Mr. Warren de la Rue, Mr. Welsh and others, before we can expect a solution of all the problems thus suggested.—*Id.*

THE HOUSE SPARROW.—As Mr. Broderip was passing one day along the footway that borders the National Gallery, he saw a sparrow fly down to the neighbouring hackney carriage stand, and pick up a very long straw, with which it flew, with some labour, towards the building. The long, streaming straw attracted the attention of some of the pedestrians, who stopped and looked at the little loaded bird, who was directing its flight towards the portico of the gallery; but finding its motions watched, it turned short round and pitched with its straw on one of the window-sills, and the people then passed on. Presently it flew again towards the portico; but, the people again stopping and looking—for if one passenger stops and looks up in a great