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mense quantities in which the insect has been found in the cones, at least in all the later importations, and the fact that the early stage in which the cone is attacked, renders protection or prevention by man nearly impossible, is likely, I fear, to keep this pine always comparatively scarce. Any hints as to its propagation, otherwise than by seed, will therefore probably be acceptable, and I shall accordingly mention a mode of propagating it by cuttings, which I have tried and found singularly successful, and which I believe has not yet been made known. In the month of June last year, when the young buds were pushing out their beautiful tender pea-green leaves, I nipped or tore off a number from a young worked plant, in order to bring it into better shape. In doing so a little of the old alburnum and bark, of course, adhered to these new fresh green portions, which were from half an inch to an inch in length; and with no great expectation of their doing anything, but rather as an experiment, I stuck them into the open border. To my gratification I found, on examination some time afterwards, that they had rooted. They did very well till the heats of August began to tell upon them, when the weakest gave way; but some stood and were taken up and potted on the approach of winter, and are now ready to come away with fresh vigour. I have no doubt that if the cuttings had been potted and taken care of, instead of being left in the open border, not one of them would have failed.

III. On the supposed influence of the Moon on Vegetation in Peru. By ARCHIBALD SMITH, M.D.

The author alluded to the prevailing belief in Peru of the moon's influence on vegetation, and gave a *resumé* of the results arrived at by various scientific observers who had had opportunities of noticing the lunar influence in the tropics. He thought it not unreasonable that the lunar ray might have a peculiar chemical agency on the functions of plants and animals, as it appears to have on dead animal

gastignus Pini. I have therefore withdrawn my description, and cancelled the name which I had given it. Mr Parfitt has described only the female, not having seen the male, which he seems to anticipate must be rare. I obtained specimens of both, which I have placed in the British Museum. The male is smaller than the female, and differs in having its upper surface entirely black.

matter. While the moon was not regarded in Peru as influencing so much the changes of weather as indirectly effecting increased growth, it must be borne in mind that the light afforded both by the sun and moon in Peru is much greater than in the British Islands,—so that, although we may reasonably repudiate any marked effect from the moonlight in these islands, the more intense lunar light of Peru may exercise a sensible power in plants. In noticing special instances in which this might be supposed to be shown, the author alluded particularly to the surprisingly rapid growth of lucerne, which is extensively cultivated in Peru, and is evidently much favoured by light, whether of sun or sun and moon together. During the prevailing misty season on the coast (which is the time when the low and maritime sand hills are garnished with grass and flowers to their summits) the growth of lucerne in the plains and valleys is greatly stunted. In these wet months, as they are called, though the rain very rarely forms into a light shower, or exceeds the limits of a dripping mist, the clover or lucerne does not attain to a flowering maturity; but no sooner do the vapours of the coast begin to break up, and the sun show itself in a brightening sky, than this useful plant, on which the horses and other cattle thrive admirably, receives a fresh impulse, yielding two or three luxuriant crops in succession. This remarkable vigour of vegetation, under the influence of a returning sun, argues on behalf of light more than of heat, as the vivifying power, because the requisite degree of heat does not appear to be deficient at any season, where the thermometer of Fahrenheit seldom sinks under 60° on the coast. Besides, in the temperate valleys of the Sierra or Andine heights, where the summer temperature of the air does not exceed the winter temperature of the coast, the lucerne grows luxuriantly under a bright clear sky during the dry season, though there also its growth is checked in the cloudy and rainy months; and yet the sunny season of the mountains is subject to night chills, or even frost at certain elevations, whereas the wet months are not so. Light, therefore, seems the essential condition to the recurrence of the more luxuriant vegetation, as observed in the successive climates of the Andes from the headlands of the coast to the temperate agricultural eleva-

tion of 10,000 feet, where the lucerne still attains a perfect growth in a clear but cool atmosphere of about 60° Fahrenheit. And, then, as we descend into yet deeper valleys at only 6000 or 7000 feet elevation, where the rains of the so-called wet season are only slight and transitory, and not to be compared to those that fall at twice this height, the sun is seen throughout the year, and, in the dry months, actually dazzles in reflected brilliancy from every stone and rock. In these favoured inland valleys there is a predominating sun all the year over; and, in the dry season especially, a profusion of sun by day, followed by a most luminous moonlight, with a calm, clear sky. Here, then, so liberal a supply of light from sun, moon, and stars, appears to be singularly favourable to vegetation; and the lucerne yields inland, two crops to one on the coast, though the temperature of the air on the coast be in the shade 10° or 12° higher during the dry season than in the inland valleys under consideration, and this, too, on soil generally inferior to that of the coast now compared with it in strength of vegetation. The author concluded by some observations on the effect of light in promoting the discharge of oxygen from the leaf tissues of plants, showing that light, independently of heat, increased their vital actions.

Professor Piazzzi Smyth, in remarking upon Dr Smith's paper, made some observations on the amount of heat given by the moon, and shortly traced the history of this inquiry, detailing many experiments by himself and others, and alluding particularly to the researches of Sir John Herschell, Professor J. D. Forbes, &c.

IV. *On some of the leading Plants of the lowest zone in Teneriffe.* By Professor C. PIAZZZI SYMTH.

The author described the manner and characteristics of growth of the chief plants met with in advancing from the sea-coast inland, and found both the indigenous and cultivated plants to exhibit a poverty of growth as compared with many other lands in the same latitude, or 28 degrees. The cause of this, he thought, was owing to the special predominance of the trade-wind throughout the Archipelago of the Canaries during the whole of the summer season, and to the