

tank was abandoned, until the dank profusion of decaying and decayed vegetation generated pestilence to such a degree, that in 1824 I was told that no white man, during certain parts of the year, dare sleep a single night beyond the walls of Charleston.

A similar result has occurred in the northern part of Ceylon, which abounds with the remains of tanks, some of gigantic dimensions. There, as at Charleston, the neglected tanks first commenced the depopulation of the district. But in Ceylon inroads of the Malabars from the continental coast, combined with that fell scourge the small pox, have reduced the population to its present low, very low state, and to make the country so unhealthy, that when two of us were about to join a shooting excursion from Colombo, and to visit the ancient capital of the island, now in ruins, our comrades tried to dissuade us by saying "that we should leave our bones in the jungle."

On looking back at the foregoing we find instances of the power of man—in the White Clover, in the Charlock, in the Yellow Pine, the Scotch Fir, the white Cedar, and the Hickory, &c.; in the bulb taken from the hand of a mummy; over the mite and the hopper, over mosquitoes, gnats, or midges, over the snails at Layton; in substituting steam for a mother, and in taking advantage of high feeding to accelerate the production of young, and thus to make the ingenuity of man minister to the wants of man. We also see man exerting his intellect in drawing condensed moisture from the clouds in the Island of Ascension—showing his ignorance by letting in pestilence and death over his healthy home in Virginia—and his intelligence by depriving miasma of its prey in the fort of Nalunda.

We find in the neighbourhood of Charleston, South Carolina, and in Ceylon, man busied in forming tanks, the sources of plenty and abundance. We see him as an economist in America, or oppressed and a martyr to the most dire disease in Ceylon, abandon those sources of plenty and abundance, and we see large districts converted into pestilential morasses.

But we see throughout, that in every instance beings are subject to universal laws; and, although man in his blindness cannot see nor trace the workings of the Almighty, and although the ingenuity, the perseverance, the comprehension of man may do much, still those laws are universal, and creation is the province of the Creator. He alone asserts this power. He exerts it when and in what manner He pleases. *I. J. C.*

Home Correspondence.

Vitality of Seeds.—Several statements have been published on the number of years during which seeds preserved in a dry state have retained their power of germinating, but much less seems to be known in regard to seeds lying naturally near the surface of the ground; therefore you may, perhaps, think the following case, though very far from a striking one, worth publishing. An arable field 15 years ago was laid down in pasture; nine years ago last spring, a portion was deeply ploughed up and planted with trees, and in the succeeding summer, as far as I can trust my memory, plenty of Charlock, which abounds in this neighbourhood, came up; but if my memory plays me false the case will prove so much the stronger. From being badly ploughed the whole of the land in the course of the year became covered with Grass and coarse weeds, and has remained so ever since, and the trees have now grown up. It is very improbable, from the well-known habits of the Charlock, that it could have grown in the little wood after the first year or two; and though almost daily visiting it I have not noticed a plant. But this spring I had some Thorn bushes pulled up; and it was so done that not more than one or two (I speak after comparison) hand's breadth of earth was turned up. To my surprise in July I happened to observe on one of the little patches of earth no less than six dwarf Charlock plants in flower; on each of two other patches three plants; and on the fourth one plant. This made me on July 21st have three separate plots of ground, each 2 feet square, in different rather open parts of the wood, cleared of thick Grass and Weeds, and dug one spit deep. By August 1st many seedlings had come up, and several of them seemed to be cruciferous plants; so I marked with little sticks 11 of them on one of the beds; six on the second bed; and five on the third bed; two or three died, all the rest grew up and proved to be Charlock. I can state positively that no Charlock was growing near these beds; and I do not believe there was any within a quarter of a mile, as the little wood is surrounded by Grass land. Now, to my mind, this seems good evidence that the Charlock seed had retained its vitality within a spit's depth of the surface during at least eight or nine years. In most cases, when plants spring up unexpectedly, as when a wood has been burnt down, it is not possible to feel sure (as has been remarked to me by Dr. Hooker) that the seeds had not been strewed about during the last year or two by birds or other means. Had the several Charlock plants come up on one spot alone, I should have thought that some accident had brought a pod there, and that I had overlooked during the previous years a few Charlock plants, but it seems to me improbable in the highest degree that on each of the 6 plants, taken by simple hazard, several (in one of the cases 11) seeds should have been dropped by some unknown agency, having been brought from a quarter of a mile distance. But if when the land was ploughed, 9 years ago (or when arable, 15 years ago) the whole was, as I believe, almost covered by Charlock,

the seed would have been scattered everywhere, ready to spring up at whatever point the land might subsequently be stirred up. I will only further remark that the power in seeds of retaining their vitality when buried in damp soil may well be an element in preserving the species, and, therefore, that seeds may be specially endowed with this capacity; whereas, the power of retaining vitality in a dry and artificial condition must be an indirect, and in one sense accidental, quality in seeds of little or no use to the species. *Charles Darwin, Down, Nov. 13.*

Cucumbers.—In his remarks on new Cucumbers, Mr. W. P. Ayres gives the following description of my "Ipswich Standard." "Though fine in form," he says, "it is coarse in flavour." Now, having sent out this variety with a good character and professing to be "a bit of a judge" in such matters, although differing in opinion from Mr. Ayres I trust you will allow me to say a few words in reply. I have no hesitation in repeating that my "Ipswich Standard," well grown, is perfect in form, solid, and crisp; the taste being neither sweet nor bitter, but exactly that agreeable Cucumbrary flavour which is so desirable in all first-rate fruit of the kind. This opinion is confirmed by numerous testimonials which I have received from gentlemen's gardeners who have discarded all other varieties. Market gardeners who never thought of show fruit have this year astonished themselves by winning for the first time prizes with this Cucumber. Others have made more money of their crop than they ever did before, while some have struck cuttings, planted ridges, and had in that way an excellent crop of handsome fruit from 12 to 18 inches in length. For the sake of a little friendly competition I should be proud to enter my thorough-bred favourite against Mr. Ayres's whole collection, but they must be judged by parties who know the difference between fine and coarse-flavoured fruit, and who are also aware that the Sion House and Kenyon's Favourite do not represent the qualifications of a perfect Cucumber; at least, such is my opinion. *Thomas Wild, Ipswich.*

Double-blossomed Peach.—You mention (see p. 726), relative to this Peach, that the fruit seldom ripens; and when it does, it is valueless. I beg to inform you that I have some trees which ripen the fruit generally every year; and although the fruit is not very palatable from the tree, it makes a most excellent preserve, when preserved in brandy, &c. *George Palmer, Nazing Park, Waltham Cross.*

The Yapanna, a Madagascar plant used against Diarrhoea.—May I trouble you to examine a specimen or two of a plant from Madagascar. The specimens I am sorry to say are all imperfect, but I send the best; they may be enough to enable you to identify the plant. They were brought in the dried state by an intelligent captain of a ship trading between this port and the West Indies. The captain says that being ill when he touched at Madagascar of some painful affection of the bowels with diarrhoea, an infusion of this plant was administered to him with very rapid success, and that it was the great remedy in the island for colics and all such affections: being so rapidly cured, he begged a small parcel of the wonderful herb to bring to Europe with him for the benefit of the faculty at home. The native name was Yapanna or Japanna. It appears to possess a good deal of astringency. This is the sum of the information I have been able to gather. If you can inform me of its name and its relations in the natural system it would be a satisfaction. *Dennis Embleton, M.D., 39, Northumberland Street, Newcastle-on-Tyne.* [The plant sent us consists of two or three twigs of some herbaceous plant, with the leaves attached, but neither flower nor fruit is present. There is therefore no means of identifying it with certainty, and we can only say that it looks very like some *Jussiaea*, such as *J. repens*, or *Ludwigia jussiaeoides*, both found in the Mascaren Islands. Of their qualities we know nothing, but the order of *Onagrad* in which botanists place them is scarcely more than mucilaginous. We should add that it is also possible that the specimens may belong to some *Lythrad* like *Ammannia vesicatoria*, in which case the supposed astringency of the Yapanna may be expected to occur.]

The Osborne Shell Shower.—Your correspondent "C. D." will no doubt follow up the pertinent questions which he put to Mr. Winchester by an exposition of the cause of his inquiries, viz. (what I dare say will astonish Mr. Winchester), that the shells never fell from the clouds at all. Nothing can be more clear than the whole story, more particularly since Mr. W.'s remarks of last week. *Zua lubrica*, the shell in question, is one (in certain situations) of our most common terrestrial mollusks; it exists in thousands among the moss-grown flowers of our woods and forests, and gladly avails itself of stones, under which it takes refuge from the cruel designs of naturalists, or the more natural instincts of its many-winged enemies. And yet how many people ever saw a *Zua lubrica*? Probably not one in every 10,000 inhabitants of the realm. It is one of the common things which pass onward, generation after generation, unnoticed and unknown. The English are not, as a people, deeply conversant with nature, except as it appears to them in those groups of beauty which touch the coldest and most unimaginative mind at such seasons of the year as the present. Of the great families of living things in the world they know little or nothing! Were it not so, we should not have so many of those wonderful stories which recount how toads have lived for ages in the middle of a rock or an old tree; how small vipers run down their mamma's throats for refuge;

or how frogs and mollusks are showered down upon us from above. Now, it is the nature of *Zua lubrica* to crawl out upon provendering excursions after rainy weather; it is necessary that it should comfort the inward snail, and from its mossy or rocky retreat on the memorable day recounted by Mr. Winchester the mollusks about Osborne were especially hungry, and wandered about that hospitable mansion in quest of food. For the first time in her life one of the ladies of her Majesty's household beheld one, two—hundreds, nay, countless thousands of these hungry young roving mollusks. "Where could they come from? How hungry they must be! poor little things! I have been in fields, gardens, woods, and even to sea, and I never did see this little creature before; it must have fallen from the clouds!" And thus in the course of half an hour the entire household at Osborne is in possession of the wonderful story, good Mr. Winchester sends off a paragraph to the *Gardeners' Chronicle*, and from one end of the kingdom to the other it is most religiously believed that a shower of shells did actually fall at Osborne on the day mentioned. This is the usual history of these tales. No one is to blame. Each told or recorded what they each and severally believed to be true. One of your correspondents, "C. D.," with a laudable desire to elicit truth, puts one or two questions, and the whole matter is blown to the winds. The only thing Mr. Winchester really knew was, that they were alive because they eat Cabbages. Will he be kind enough to go and search in the neighbourhood of Osborne among moss and stones, and he will find hundreds of *Zua lubrica* that will do the same? If he will be careful in his search he will find scores of snails that he never saw before. But they did not fall from the clouds, neither were they lifted bodily by a storm and removed from one locality to another; they have fed thus since the great convulsion of Nature which separated the island from the mainland, and they will remain until their destiny is fulfilled, and no longer. *C. R. Bree, Stricklands, Stowmarket, Nov. 13.*

Subterranean Irrigation; Woolmer "Forest."—I feel great pleasure in observing that my former communication has been the means of prompting a minute and interesting notice of Mr. Wilkins's experimental garden at Reading. May I be again permitted to make a few remarks on the benefits probably to be derived from the adoption of this system in certain localities. Look, for instance, at the immense extent of the south downs; what would not those downs produce which now barely feed a few sheep, were they, or great parts of them, brought into cultivation under this system? We will not stop to consider them, however, but will endeavour to get a step or two nearer the metropolis. As you leave these downs in the rear, you step at once into "The Royal Forest of Woolmer, a tract of 7 miles in length, by 2½ in breadth." Yes, a royal forest, but a forest of what? Why a royal forest of flints and Furze, a land of sandstone and shingle, a region of "Varn" and heather—or, in one word, a primeval waste, over whose hillsides desolation reigneth paramount. Such is or rather such was the condition of this domain the last time I saw it, with the exception of a straggling plantation of Pines that did not appear to be at all extensive. It will thus be seen that this immense extent of country, within 50 miles of London, is at the present time laying almost wholly idle and unproductive; and it will not require any very profound calculations to prove that in its present condition it is a dead loss to the state, and a next to useless addition to the crown lands. I should venture to suggest that if Government were to form a company for the purpose of building upon and bringing into cultivation this extensive district under Mr. Wilkins's system, the benefits to be derived from it would be almost incalculable; and instead of its being, as it now is, one of the most barren, worthless, and uncivilised portions of the country, it might be made one of the most smiling and productive. It consists principally of wide undulating slopes and extensive tablelands; added to this, it has several lakes of various dimensions within its limits. Altogether it would be, in my opinion, a most eligible situation for carrying out the system of subsoil irrigation with beneficial effect. It may be asked, supposing the Government could be prevailed to give this barren waste into the hands of an enterprising company, what would be the results? We may reasonably suppose that they should be something like the following, namely, that the company would build houses from the labourer's cottage up to the ordinary farmhouse, with a proportionate amount of land duly prepared attached to each; together with barns, sheds, and all things requisite or appertaining to the system, and for which a moderate rental should be expected. I am myself not only perfectly convinced that this plan would be most profitable and remunerative, but that these residences would be eagerly sought after, and from the competition even perhaps difficult to obtain. Under this system then, and in this particular district, we may hope to see a return of that good time—

"Ere England's griefs began,
When every rood of ground maintained its man."

And it is also worthy of remark that the labour attending this mode of cultivation is trifling compared to that of the old system, the soil itself requiring none of that care, labour, and attention so essential to the welfare of all land cultivated in the ordinary manner. The crops of the neighbouring farmers on this light soil may be parched up or partially ruined, but the new man has nothing to fear. The excessive drought or heat are but the means of renovating and bringing quicker to per-