

BRITISH AGRICULTURE.

The agriculture of Great Britain, says the *Agricultural Gazette*, is undoubtedly the foremost of the world. Our climate is not better, nor our soils more fertile; but our average crops are heavier than are realized elsewhere. Our breeds of cattle, sheep, and pigs are superior to any other. Our agricultural machinery is unrivalled. The capital employed by our farmers is in no other country, as a whole, so large. Go to the continental agricultural shows and you will see our threshing machines, our steam engines, our steam ploughs, our reaping machines as it may be contended, even our implements and tools of manufacture—ploughs, harrows, cultivators, horse-hoes, rollers, rakes—our short-horn cattle and Leicester sheep; or crosses of them—all representing the most advanced stage, or perhaps one step beyond that, of the agricultural progress of the foreigner. That great agricultural improvement of most soils—the subsoil drainage of the land—originated with us; and here, first, has been that immense development of the use and manufacture of artificial manures which the present generation of farmers have witnessed.

But there is another side to this picture. What shall we say of the agriculture of a country so outrageously unable to feed our inhabitants as ours has proved. We have 30,407,579 occupied acres, and only 26,062,172 people in Great Britain. We have even 17,250,172 arable acres for the maintenance of that population. Taking the whole United Kingdom, we have 46,177,370 acres in the hands of the farmers, and only 31,465,470 people to be fed. Let any one who knows the produce of his own quarter-acre garden, and what it does towards the maintenance of his family, contrast with it this enormous acreage, arable and pasture—6.3 acres for every family of five of all ages throughout the country—and say what he thinks of the fact, that out of every 100 loaves that family consumes, not more than 60 have been produced by English soil. What will he say of the fact that since 1856-62, when the number of animals, i.e. "oxen, cows, and calves," imported varied from 80,000 to 100,000 annually, this number, excluding the cattle plague years, has since risen to upwards of 200,000 annually, and 241,116 have been imported during eleven months of 1871? Or of the fact that whereas in 1856, 1857, 1858, the number of sheep imported varied from 150,000 to 180,000 annually, of late years the number has exceeded half a million, and in the eleven months of last year no fewer than 882,620 landed on our shores? Or, to take any other of our staple agricultural products as the test of our growing or our waning powers of agricultural produce, we have for many years been more or less dependent on other countries for our supplies of bacon, beef, butter and cheese. Our annual imports 12 or 15 years ago were 25,000 tons of bacon and pork, 7,000 or 8,000 tons of beef, 20,000 to 30,000 tons of butter, and as much cheese; since then the quantities have been more than doubled, and in the eleven months of 1871, of which alone the statistics have yet been published, nearly 60,000 tons of pork and bacon, 12,000 tons of beef, 60,000 tons of butter, and nearly as much cheese, have been imported from abroad. Our growing imports of wheat have been inferred from our remarks on the bread consumed. They now amount to from thirty to thirty-eight million cwt. of wheat, and three to five million cwt. of wheat flour, not to speak of nearly as much in point of weight of barley, oats, and maize, adding the three together; and our whole home growth cannot be put at more than 55,000,000 cwt. of wheat, 42,000,000 cwt. of barley, 60,000,000 cwt. of oats. We used fifteen years ago to import from 70 to 80 lbs. of wheat or wheat flour for every individual of our population; we now import from 100 lbs. in good years to 150 lbs. apiece in bad ones; and in the last eleven months we have imported 36,469,535 cwt. of wheat, and 3,645,084 cwt. of flour—the highest import previously recorded for a whole twelve months having been, in 1869, 37,695,828 cwt. of wheat, and 5,401,535 cwt. of flour.

This enormous import—this great dependence on other countries for our food supply—doesn't look like a prosperous or growing agriculture. It is a paltry comfort, after all, that is gathered from the proof that we are better farmers than our neighbours. Taken, not comparatively, but absolutely, and considering both what our land produces on the whole, and what it actually produces in particular examples, its outrageous failure to produce sufficient for the wants of the people living on it is nothing less than disgraceful.

There is nothing like it in any other of our manufactures. Excepting the products of our agriculture, in hardly any other thing which we could produce for ourselves are our imports considerable. When the raw material has to be dug out of the very bowels of the earth, or even imported from the other side of it, we supply the whole world with our finished goods over and above our own immediate wants. When it lies immediately beneath us and around us—in the soil on which we tread or in the very air we breathe—somehow the usual triumphant success of English pluck and perseverance is wanting. We do not even meet our own demands—still less can we pretend to supply the wants of others.

This not only strikes the student of our manufacturing industry; it is admitted by all our agricultural authorities. We could hardly quote one more trustworthy on this subject than the Earl of Leicester—a great landowner, a good practical farmer, and a traveller. He lately said:—"I have travelled much through England and through parts of Scotland; and, taking into consideration the whole of the land that I have seen under cultivation, I think I may safely state that the produce of the land might be nearly doubled under a perfect system of agriculture. I have observed a want of capital and skill on the part of the occupier, and an apparent want of assistance and encouragement on the part of the owner. The buildings were bad and inconvenient, the fields too small and ill-arranged, and too often covered with useless timber. But the two greatest evils that, in my opinion, prevented the growth of larger crops were—inferior drainage and shallow cultivation."

We do not quote this for the lesson which it offers, but for the fact to which it bears witness. The land is about half cultivated—that is the end to which "the foremost agriculture of the world" has at length attained.

A REMARKABLE STORY.—The Veteran Agassiz sends a wonderful story from the sea. But for his acknowledged mastery of the secrets of science, and his prudence in announcing the results of his voyages of discovery, there might be some degree of hesitation in believing this new tale of a traveller. So much for having a good reputation! The story runs that a

fish known to naturalists by the pleasing name of *Chironectes Piculus*, uses its hand-like fins to build a floating cradle for its young, which cradle, rocking upon the deep ocean, is "carried along (says Agassiz) as an undying harbour, affording protection, and afterwards food for its living freight." To outward seeming, this curious nest or cradle is but a floating bunch of seaweed, but on examination it proves to be a mass of branches and leaves, as big as two human fists, tightly knit together by elastic threads of seaweed "tending in every direction," each thread beaded with eggs the size of a pin's head. The maternal fish possessing fins like hands with prolonged wrist-like appendages, Agassiz concludes that its rude fishy fingers are used in the building of this floating ark. It is easy to gather from his simple narrative that the enthusiastic veteran was inspired with a feeling of unutterable joy when this tangled and threaded bunch of weeds was laid before him on the deck of the "Hassler." The ship rocked and his microscope was unsteady, but he unravelled the mystery, and transferred the little eggs to a private hatching machine, in which lively embryos presently began to kick and squirm, missing the comforts of their cradle doubtless, but happy enough, it is supposed, under the care of their distinguished patron. Agassiz quaintly attributes this success to the effects of a lecture he delivered "to all on board," in which he stated "all he knew," and what he wanted to ascertain, and he adds, with becoming gratitude, that officers and men instantly engaged in lively emulation to gratify him. From the day of that lecture "not a patch of seaweed" passed the ship that was not carefully looked at, and hauled up and the first result of the expedition is this account of a fish with hands, which sews seaweed into balls, and floats a perfect and nutritious cradle out upon the currents of the sea.

Professor Chasles, member of the University of Paris, has published a pamphlet entitled "De l'Etude de la Langue Allemande dans les établissements publics de l'instruction secondaire," in which he gives a curious illustration of the ignorance of the German language which has hitherto prevailed among the officers of the French army. "In 1866," he says, "one or two months after the battle of Sadowa, a former pupil of mine in the lycée of Montpellier, a captain on the general staff, came into my study with some books under his arm and asked me to give him some German lessons, saying that he had forgotten all the German he had learnt from me before, as at that time he and his comrades only took lessons in that language to enable them to pass the examinations. I could not help smiling at this request, for I knew from long experience that only children and youths, but not adults, can be taught German; I have seen only one exception to this rule in the case of a former lieutenant of grenadiers of the Imperial Guard. You may learn English, Italian, Spanish, at any age, but not German. . . . I asked the captain the reason of this sudden liking for a language which is so unpopular in the French army, and he told me—that I can now repeat without indiscretion—that the War Office was preparing for an expedition against Prussia. The army might, he added, be ordered to march any moment, and he was anxious to pick up enough German in a month or two to be able to talk to the inhabitants of the invaded districts, and to draw up routes for the troops. 'I have been directed,' the captain proceeded, 'by his Excellency to make a preliminary report for the expedition. Unfortunately, two essential things are wanting to me and my comrades: none of us understand German, and there are not in the War Office any of the documents which would be necessary for deciding as to the lines of march and the means of transport. Since 1806 or 1807 there have been no new maps or charts in the library, so that the only documents I can consult before making my report to the Ministers are the books and maps which are to be got at the booksellers'. Here is one of them, which we will at once set about translating.' He then placed before me a tolerably compact book on geography; I think it was Ungewitter's. It was a meagre and insufficient production, but the young captain, notwithstanding his intelligence, was unable to digest it. Being pressed for time, and urged on by the Minister, he was obliged to fall back upon the inaccurate translation of Baedeker. . . . After two months my former pupil, who no doubt was disconcerted by his failure, gave up his lessons, and I did not see him again. He perceived, what is now more evident to all of us than ever, that the study of Baedeker may lead commercial travellers and tourists to Berlin without difficulty, but that it will not show the way to an army, even if it were a French one."

Much uneasiness is at present caused in Edinburgh by a ghost who has appeared, it is stated, in various quarters of the city. The latest information, according to the *Edinburgh Courier*, has reference to his descent in the open space in front of Holyrood Palace, where he caused much alarm. The ghost is described as a very tall figure, draped from head to foot in white, the face clear as if covered with a phosphorescent substance, but the features undistinguishable. The apparition has been seen by many people. Sometimes it "walks calmly about," but at other times it gives the most terrific jumps. "A gentleman of high respectability, and who is at the head of a well-known establishment in Princes' Street" was much annoyed the other evening by the ghost springing from the side of the road in a lonely part of Fountainbridge, and standing right in front of him. The gentleman raised his walking-stick in self-defence; the ghost gazed at him earnestly for a few seconds, and then at a single bound went off about a dozen yards along the street and disappeared like a flash of lightning. Some people suppose that an unprincipled person is merely personating a ghost, but this is a far more uncomfortable view of the matter than the hypothesis that the ghost is genuine; a real ghost is trying to the nerves, but not dangerous; you may poke a walking-stick through a phantom, but a substantial ghost is a serious nuisance. Is it possible that the missing Russian is disporting himself in a long, white robe in Edinburgh, and that his "wandering mania" has developed itself in this fashion?

The subscription for the deliverance of the national territory is progressing with extraordinary rapidity in France. All sorts of ways of making money are proposed by the journals which advocate the patriotic movement. A correspondent of the *Moniteur Universel* suggests an ingenious plan. She proposes to add to voluntary gifts of jewels the earrings of the whole female population of France. "Let us put a stop," says she, "to this savage fashion, let blood be shed for our country, but let not wounds be inflicted in order to place

a jewel therein. Let all be given, from the enamelled gold button of the workwoman to the clusters of rubies, of pearls, of brilliants. Seeing a woman without earrings will then elicit the respectful remark, 'That is a woman of France!'" Whether patriotism will prevail over the general liking for this becoming, and by no means painful, ornament remains to be seen. It is to be feared that the jewellers will profit most by this arrangement, as when the female population of France has given up the earrings it now wears it will unquestionably lose no time in buying new ones.

Practical experiments with the guns constructed by Herr Cordes for shooting out ropes to persons in danger of drowning carried on at Bremen, have proved the contrivance to be one of the greatest utility. German naval authorities are of opinion that it constitutes the most useful appliance for the purpose in existence. By means of a sort of rifle charged with 2½ grammes of gunpowder a bolt is shot out into the sea, having a rope attached to it, which the drowning man is thus enabled to seize in order by it to be pulled to the shore. It has been proved that a heavy bolt is more serviceable than a light one, for with the same charge of powder Herr Cordes succeeded in throwing a two-pound bolt 140 paces and a 1½ lb. bolt only 112. Herr Cordes has also constructed small cannons which, charged with from ¼ to ½ lb. of gunpowder, throw out 20 lb. bolts with ropes full 400 yards into the sea. The "German Society for saving Persons from Shipwreck" has warmly acknowledged the merits of the invention and ordered its adoption at its own stations, recommending its use at the same time to vessels of all kinds. It is satisfactory to find that cannons and rifles, hitherto only destroyers of human life, may be converted, in one shape at least, into its friends and saviors.

The Jackson (Tenn.) *Whig and Tribune* of a late date, relates the following interesting account of the resentment and courage of the honey bee:—Capt. Brown, of this city, recently robbed three hives, and Dr. West, a neighbour, robbed four. The bees, thus deprived of the fruits of their labour, became furious; and uniting, making an army of seven hives, they invaded the premises of Mr. Horace Bledsoe, and made a fierce attack on five of his hives. Bledsoe's bees were taken by surprise, and although outnumbered, fought for their homes with desperation. The battle lasted several hours, and four of Bledsoe's hives were literally destroyed. The invaders were finally repulsed, after being almost annihilated. The ground for yards around was black with dead bees. Mr. Bledsoe, although a serious loser, buried the dead warriors with honours of war. Few of the invaders survived the battle, and from out of five of the defending hives, four were destroyed. It was the bloodiest bee battle on record, and deserves to be handed down to posterity.

SCIENTIFIC.

RIGIDITY OF THE JAWS IN DROWNING PERSONS NOT A SIGN OF DEATH.—A recent writer assures us that the rigidity of the jaws in a person taken out of the water after long immersion, instead of being a sign of death, is really an indication that life is still present, as it disappears only when life is actually extinct. This, of course, is not to be confounded with the stiffening of the entire body after death, but refers entirely to the local symptoms. We, ar., therefore, advised, under the circumstances indicated, not to lose hope, but to continue to make use of all the methods that present themselves as appropriate for the restoration of suspended animation, whether by the injection of air into the lungs, or by other means.

SUBSTITUTE FOR LITHOGRAPHIC STONE.—It is now proposed, but with doubtful promise, to substitute ordinary lithographic stone by the use of a smooth block of wood coated with glue or other gelatinous matter, or with a solution of silicate of soda and bichromate of potash, exposed to sunlight and washed. An ink or pigment is made with gelatinous matter dissolved in a saturated solution of bichromate of potash, with or without chrome, alum, and with a small quantity of ivory-black to render the ink visible. On the prepared block or slab the desired picture or other work is made with this ink, and when dry, exposed to sunlight. After exposure, the surface is covered with gum or glycerine, and is then ready for the printer.—*American Artizan*.

DISTINGUISHING REAL FROM APPARENT DEATH.—A new mode of distinguishing between real and apparent death has been recently submitted to the consideration of the Academy of Medicine, in Paris. It consists in the insertion of a bright steel needle into the body; and it is said that when life is present the needle soon becomes tarnished by oxidation; while, on the other hand, if death has taken place, the needle will retain its brightness for half an hour or more. According to Dr. Laborde, the author of the communication, oxidation, with its attendant electrical phenomena, indicates that death is only apparent, and the entire absence of oxidation is a sign of real death.

FLOWERS AS DISINFECTANTS.—Professor Mantegazza has recently discovered that ozone is developed by certain odorous flowers. A writer in *Nature* states that most of the strong smelling vegetable essences, such as mint, cloves, lavender, lemon, and cherry laurel, develop a very large quantity of ozone when in contact with atmospheric oxygen in light. Flowers destitute of perfume do not develop it, and generally the amount of ozone seems to be in proportion, to the strength of the perfume emanated. Professor Mantegazza recommends that in marshy districts and in places infested with noxious exhalations, strong-smelling flowers should be planted around the house, in order that the ozone emitted from them may exert its powerful oxidizing influence. So pleasant a plan for making a malarious district salubrious only requires to be known to be put in practice.

CURIOUS FACT (?)—At a recent sitting of the French Academy of Sciences, a curious communication was received from M. Zaliwski, which, if it were borne out, would be invaluable to navigation. He states that if a hollow cylinder made of thin materials, open at the top and provided with a sharp-edged bottom, be properly ballasted and then put into a tub or other vessel filled with water, it will soon move in a never-varying direction from west to east. The round tin boxes in which concentrated milk is preserved will do perfectly for the experiment, which will become more and more perceptible the oftener the same cylinder is made to do duty in that way.—*Engineer*.