

closed by the contents of the prehistoric "kitchen-middens," and the social condition of the speakers of the Indo-European parent-speech according to the sobered estimate of recent linguistic research. The resemblance is certainly very striking; though, on the other hand, it cannot be denied that archæological science is still in its infancy, and that Dr. Penka too often assumes that a word common to the European languages belonged to the parent-speech,—an assumption which will not, of course, be admitted by his opponents.

What more nearly concerns us here, however, is the name we should give to the race or people who spoke the parent-language. We cannot call them "Indo-Europeans:" that would lead to endless ambiguities, while the term itself has already been appropriated in a linguistic sense. Dr. Penka has called them "Aryans," and I can see no better title with which to endow them. The name is short; it has already been used in an ethnological as well as in a linguistic sense; and, since our German friends have rejected it in its linguistic application, it is open to every one to confine it to a purely ethnological meaning. I know that the author has protested against such an application of the term; but it is not the first time that a father has been robbed of his offspring, and he cannot object to the robbery when it is committed in the cause of science. For some time past the name of "Aryan" has been without a definition, while the first speakers of the Indo-European parent-speech have been vainly demanding a name; and the priests of anthropology cannot do better than lead them to the font of science, and there baptize them with the name of "Aryan."

A. H. SAYCE.

#### THE GRAIN PLANT-LOUSE.

THE present season is characterized by one of those widespread and very damaging insect-invasions that are so discouraging to the farmer, this time an onslaught on the wheat-crop by the grain *Aphis* or plant-louse, *Aphis avenæ*. This louse attacks wheat, barley, oats, and rye, and is to be found in small numbers on these grains every year. This year occurs one of those terrible attacks that seem to threaten very serious loss, extending from Ohio west to Indiana, and north to Grand Rapids, Mich. So abundant are these lice, that they have attracted wide attention and awakened serious alarm. For the last two weeks in June Mr. A. J. Cook, of the Agricultural College of Michigan, received daily numerous specimens of these lice with the inquiry, "What is to be the outcome of this attack?"

This is not the first season that this *Aphis avenæ* has come like a destroying flood upon the grain-fields. In 1861 the lice swarmed upon the cereal crops of New England and New York, at which time Dr. Asa Fitch fully described it in his sixth report. In 1866, and again ten years later, it did great damage in various sections of the West. We see, then, that this louse does not come yearly, but only at long intervals. Why is this? It is doubtless owing in some measure to the weather, but more to its insect enemies. Its enormous prolificness would make it as the sands of the seashore every year, except that some natural agent held it in check. Fitch describes three such enemies. Even now, as we visit the oat and wheat fields, we find many forms different from any previously described. These have short, rounded bodies, which are of a dirty-white color. The cause of this is that these are attacked by parasites, which are eating them up. These little benefactors are now busily engaged in the fields, laying the eggs that will destroy the lice. These minute parasitic insects lay a great many eggs, one in each louse, and their presence and prosperity mark the doom of the lice. Thus through the agency of these minute parasitic forms, aided by climatic influences, we are to be saved from a raid by this grain *Aphis* next year, and will be greatly benefited this year. Indeed, in some cases, these little friends will very likely save us from serious damage. Why the parasites are not able to come successfully to the rescue each year is still unknown. Dry weather is a great promoter of insect productiveness. It is more than probable that the exceeding drought of 1887, 1888, and of the April and May just past, together with the mild winter of 1888-1889, have had much to do with the present invasion. We might expect much aid from the frequent

June rains, but they were perhaps too late. Observation shows that the lice are more than holding their own: so we may conclude that the warm rains are not greatly depleting their ranks.

Where the lice are very numerous, as they seem to be over a widespread area of our country, they must do great injury. Where ten or twelve lice are collected about a single kernel of wheat, there is little hope for that kernel. Mr. Cook has counted one hundred and sixty lice on a single head of wheat. It is hoping too much of the little parasitic flies to expect them to save the present crop. We can but expect much injury, especially where the lice are in such countless numbers as are now seen in many of the wheat-fields of Indiana, Ohio, and Michigan.

The excellent specific against plant-louse ravages, the kerosene and soap mixture, cannot be used without much injury to the crop. To apply it might be like the jump from frying-pan to fire. Again: the lice are so protected by the close cluster of the kernels, that very likely the remedy would not be fully effective.

The name "green midge," which is going the rounds of the papers, is very incorrect, and should not be used. The Hessian-fly and wheat-midge are very different insects. These midges are two-winged flies, whose larvæ are footless maggots. They belong to the great two-winged fly order, *Diptera*, while these are plant-lice or *Aphides*, and belong to the order of bugs, or *Hemiptera*. Let all speak of this as the grain *Aphis*, or plant-louse, and not as the green midge, which is entirely wrong, as they are not always even green in color.

#### NOTES AND NEWS.

A SPECIAL limited Pullman train with dining and composite cars will leave the foot of Chambers Street, New York, via the Erie Railroad, on Monday, Aug. 5, at 9 o'clock A.M., for the accommodation of the members of the National Electric Light Association and their friends, who will attend the convention at Niagara Falls, Aug. 6, 7, and 8. One car will be reserved for gentlemen accompanied by ladies. Tickets on this train, including Pullman service, will cost ten dollars each. Return tickets (to be obtained at Niagara Falls), including Pullman service, will cost four dollars and sixty cents each. As the cost of this train must be guaranteed the road, all members are urged to remit ten dollars to the secretary at the earliest possible moment, for which they will receive their railway-tickets and Pullman seat-checks by return mail. Tickets may also be obtained at the offices of the *Electrical Review*, 13 Park Row, and the *Electrical World*, Times Building.

— The Boston *Herald* says that "some figures presented at the meeting of the United States Brewers' Association show a wonderful growth of the business during the last twenty-five years. For instance, receipts of the government from the internal revenue tax on fermented liquors amounted to about \$1,500,000 in 1863, when the tax was first imposed. In 1866 the figures rose to \$5,000,000; in 1879, to \$10,000,000; in 1882, to \$15,000,000; and last year the tax amounted to \$23,000,000. The quantity increased in the same ratio from 2,000,000 barrels in 1863 to over 24,000,000 in 1888. At this rate of growth, it is small wonder that Englishmen think they see a chance of making money by buying up American breweries."

— The San Francisco *Chronicle* says that "some of the New York dealers in California wines assert that the reason why the price of our wines in the East is so low is that growers dump quantities of sick wine on the market, and spoil the tone of the California product. They say that the grower sends on several hundred barrels of wine, which arrives in New York sick with the voyage, if not altogether sour, necessitating rest and new barrels before it is salable at all. These dealers go on to say, 'Perhaps the grower has no warehouse, no time to wait, no change of cooperage, no other wine to mix with: therefore he puts his wine on the market at a ridiculous price below what cooperage, freight, and insurance cost. He makes no money, and the buyer is disgusted with California wine.'"

— The French minister of commerce has appointed a committee for the purpose of organizing an international photographic congress to be held during the Paris Exhibition. The committee, headed by the well-known astronomer, Professor Janssen, have

already commenced work. The congress will meet from Aug. 6 to Aug. 17, and discuss the following subjects: (1) introduction of a uniform photometric unit; (2) uniform measurements of focal lengths of objectives; (3) a uniform scale for the determination of the photometric effect of objective diaphragms; (4) uniform periods of exposure in instantaneous work; (5) the adoption of a uniform and easily applicable method for fitting different objectives on to cameras; (6) a universal form of plate; (7) a uniform terminology for photographic operations; (8) universal agreement of photographic formulæ; (9) uniform adjustment of customs procedure with regard to substances sensitive to light; and (10) protection of artistic copyright in photographic works. A conference, in which the work of the congress will be publicly discussed, is to take place on Aug. 20.

— The extreme summit of the Eiffel Tower consists of a small circular gallery less than six feet in diameter, and surrounded by a hand-rail. The floor is three hundred metres above the ground, and from the centre rises the rod that serves as a lightning conductor and flagstaff. In this small gallery M. Mascart presides over the Bureau Central Météorologique established there. The instruments comprise a registering thermometer and hygrometer, a psychrometer, and several maximum and minimum thermometers. There are, in addition, a set of Richards's thermometers and hygrometers that constantly transmit their readings electrically to the Arts Libéraux building, where they are recorded. Outside the gallery are placed a recording actinometer and rain-gauge, and sixty feet below is a large registering barometer. An admirably installed anemometer forms a part of the apparatus. It is mounted on a rod about ten feet high. The vanes, which are of aluminium, are mounted so as to move under the lightest wind-current. Electrical contacts are so arranged as to record each displacement of air of one metre, each displacement of fifty metres, and each of five kilometres. These contacts transmit the effects to the ground station, where they are recorded in speeds per second. A number of other apparatus are included in this very complete laboratory, which has been in regular working for some time. It was asserted, as one of the many objections raised against the Eiffel Tower, that the oscillations at the summit would, under certain unfavorable conditions, be dangerous: it is therefore satisfactory to record, that, with the highest wind-velocities yet observed, the movement at the summit of the tower is hardly appreciable.

— The high temperature produced during the slaking of lime has been but rarely utilized except as an agent in matters of accident in setting fire to vessels and to buildings. *Engineering* adds to these the ordinary method of the helpers to masons, who warm up the coffee for their dinner in cold weather by placing the pail of coffee on a lump of lime, sprinkling on a little water, and watching it carefully to see that it does not boil too hard. Many years ago, before the invention of the diving-bell, a large wager was made between two gentlemen in regard to the possibility of one cooking a pudding at the bottom of the Thames. The winner had his pudding placed in the middle of a large sack of lime, lowered to the bottom of the river, and in due time pulled up, with the result of finding that the conditions of the wager, in regard to the cooking of the pudding, had been fully carried out. But of late lime has been frequently used to remove the frost from the ground in winter, and also to melt out water-pipes; as it has been found that a heap of lime laid on the earth, wet slightly, and covered over with blankets and other non-conducting materials, will draw the frost out of the ground. This is the complement of the process of facilitating engineering work in quicksand by means of the freezing processes frequently used for such purposes.

— With regard to the accident which has occurred to the German Navy at Apia, H. E. Gunther, in the *Photographic News*, says, it might be advisable to refer once more to the theory of Dr. Zenger of Prague, who suggested, as it will be remembered, to make use of photography for the prediction of the weather. According to the doctor, photographs of the sun taken on orthochromatic plates offer a most infallible means to indicate with almost absolute certainty the approaching atmospheric and subterranean disturbances at least twenty-four hours before their setting in. In

these photographs zones are often to be seen around the sun's disk, — i.e., rings of circular or elliptical form, of white or grayish color, — and if these zones appear of very large diameter, and of unusual heaviness, this indicates that violent storms, thunderstorms, or magnetical disturbances will soon set in at the place of observation. At every ship's station should therefore be established a small photographic laboratory, in which photographs of the sun could be taken as often as possible. A much more reliable prediction of the weather would be afforded by this means than by the aid of the barometer now generally in use for this purpose, and precautions could therefore be taken in good time.

— The "Fourth Annual Report of the Maine State Board of Health" is now in press, and will be distributed as soon as possible. Among the papers which it will contain are, "Small-Pox at Cumberland Mills;" "Diphtheria at the Insane-Hospital;" "Typhoid-Fever at Washburn;" "Circulars;" "Water-Analysis;" "Public Water-Supplies;" "Pneumonia as an Infectious or Epidemic Disease;" "Epidemic Jaundice;" "Cerebro-Spinal Meningitis;" "As to the Infectiousness of Diphtheria;" "On the Identity of Croup and Diphtheria;" "On the Filtering Capacity of the Soil;" "Public Health Work in Portland;" "Light Gymnastics for Schools;" "Pollution of Water-Supplies;" "As to the Spontaneity of Infectious Diseases."

— In 1886 the Prince of Monaco, wishing to study the course of the Gulf Stream, threw into it some copper flasks from the "Hirondelle." Three of these flasks have come ashore on the south coast of Iceland, — two near the O Mountains, in the Rangárvall district; and the third at Flöj, in the Arnaes district.

— At a recent meeting of the Scientific Society of Copenhagen, says *Nature*, Professor Steenstrup gave an account of the results of his examination, last year, of the great mammoth deposit at Predmost, in Moravia. Dr. Wankel and Professor Maschka, who have devoted much attention to the subject, are of opinion that the mammoths whose remains are found in this district were killed by man, and that their bodies were dragged thither to be eaten. Professor Steenstrup, on the contrary, holds that the mammoths themselves sought the locality, and that they must have died from want of water, or from some other cause with which man had nothing to do. The splits in the remains are due, he thinks, to the action of water and sand, and afford no support to the notion that the knuckles were cleft for the sake of the marrow. It is certain that some of the bones have been exposed to the action of fire; but Professor Steenstrup maintains that the traces of fire may be due to the fact that fires were at one time lighted upon them. On some of them, decorative lines have been scratched, but these may have been made long after the mammoth was extinct in Moravia. The lines, according to Professor Steenstrup, are identical with the ornamentation of pottery of the neolithic age.

— In his last "Meteorological Report for India," Mr. Elliot, referring to sun-spots and weather in India, — a subject which has been frequently mentioned in these reports, says, "So far as India is concerned, it would appear that it is the period of minimum sun-spots which is associated with the largest and most abnormal variations of meteorological conditions and actions. Thus exceptionally heavy snow fell in the North-West Himalayas in the winter of 1866, and again in 1876 and 1877. The latter is to some extent described in the annual reports on the meteorology of India for these two years. Again: the most striking and disastrous famines of recent years in India have occurred near the period of minimum sun-spots; as, for example, the Orissa famine of 1866, the Behar famine of 1874, and the Madras famine in 1876-77. Similarly, there is a clearly marked tendency for the largest and most intense cyclones to occur shortly before the period of minimum sun-spots; as, for example, the great Calcutta cyclone of 1864, in which 60,000 people were drowned by the storm-wave, and the still larger Backerganj cyclone of 1876, in which 100,000 lives were lost by drowning. As we are now approaching or passing through the same phase of the sun-spot period, it is interesting to inquire whether there are any large abnormal variations common to the present period of minimum sun-spots, and the previous corresponding periods of 1865-66 and 1876-77."