NOTES AND NEWS.

THE way in which foreign plants become "weeds," under new and favorable conditions, is illustrated by the recent case of *Melilotus alba* in our Western States. Introduced a few years ago as a garden-plant, it has spread so rapidly in the rich bottom-lands along the Missouri River, according to *Garden and Forest*, that it is fast driving out the sunflower and other native weeds. It is commonly called the "Bokhara clover."

—A meteorite of special interest to chemists has been examined by M. Stanislas Meunier. It fell at Mighenï, in Russia, on June 9, 1889; and it was evident, from a cursory inspection, that it was of a carbonaceous nature. In external appearance, as stated in *Nature*, it exhibited a deep greenish-black color, relieved by numerous small brilliant white crystals. The surface was considerably wrinkled, and blown out into swellings. The material was very friable, and readily soiled the fingers. A section under the miscroscope was observed to consist largely of opaque matter interspersed with crystals of a magnesian pyroxene and peridote. Fine particles of metallic iron and nickeliferous iron were readily collected by a magnet from the powdered rock, having all the characteristics of meteoric iron. The density of the meteorite was not very high, 2.495. About 85 per cent of the rock was found to be attacked by acids, the portion so attacked being shown by analysis to consist mainly of a silicate of magnesium and iron having the composition of peridote. On the remaining 15 per cent being heated in a current of dry oxygen gas, it readily took fire and burnt brilliantly. The products of combustion, which were allowed to pass through the usual absorption tubes containing pumice and sulphuric acid and potash, showed that the meteorite contained nearly 5 per cent of organic matter. In order to obtain some idea as to the nature of the carbonaceous substance present, a quantity of the rock was powdered and then digested with alcohol. On evaporation the alcholoic extract yielded a bright yellow resin, which was readily precipitated from the alcoholic solution by water, and much resembled the kabäite of Wöhler. The most curious chemical properties of the meteorite, however, are exhibited with a cold aqueous extract of the powdered rock. The filtered liquid is quite colorless, but exhales a faint odor due to an organic salt which carbonizes on evaporation to dryness, and may be burnt upon platinum foil. The aqueous extract further contains nearly 2 per cent of mineral matter possessing properties of a novel character. Barium-chloride solution gives a heavy white precipitate, which, however, is not barium sulphate. Silver nitrate gives a voluminous curdy reddish-violet precipitate, reminding one of silver chromate, but of quite a distinct and peculiar tint, and which blackens in a very few minutes in daylight. The substance which exhibits these re-actions is unchanged by evaporation to dryness and ignition to redness, readily dissolving in water again on cooling, and giving the above re-actions. The silver-nitrate precipitate, when allowed to stand for some time undisturbed in the liquid, becomes converted into colorless but brilliantly refractive crystals, which polarize brightly between crossed nicols under the microscope, and which are insoluble in boiling water. The properties of this new substance contained in the water extract appear to approximate most closely to those of certain metallic tellurates, but the new compound appears also to differ in certain respects from those terrestrial salts.

—We owe a new and interesting application of photography to M. Bertillon, the well-known director of the Identification Department at the Paris Prefecture of Police. M. Bertillon has been devoting himself for some months to the study of the physical peculiarities engendered by the pursuit of different occupations. According to *Nature*, the police have frequently to deal with portions of bodies and it would greatly aid their investigations to be able to determine the calling of the murdered person in each particular case. The hand is, as a rule, the part naturally most affected by the occupation; and M. Bertillon has taken a very large series of photographs, each one showing on a large scale the hands, on a smaller scale the whole figure of the workman at his work, so that one may see at a glance the position of the body, and which are the parts that undergo friction from the tools in use. From the hands of the navvy all the secondary lines disappear, and a peculiar callosity is developed where the spade-handle rubs against the hand; the hands of tin-plate workers are covered with little crevices produced by the acids employed; the hands of lace-makers are smooth, but they have blisters full of serum on the back and callosities on the front part of the shoulder, due to the friction of the straps of the loom; the thumb and the first joints of the index of metal-workers show very large blisters, whilst the left hand has scars made by the sharp fragments of metal. Experts in forensic medicine (Vernois among others) have before drawn attention to the subject; but this is the first time that an investigation has been carried out on a large scale, and in M. Bertillon's hands it should lead to the best results.

—Two new expeditions are announced in *Globus*, Bd. 65, No. vi. Joseph Martin has lately left Peking with a few companions for Lan-chow and Sin-ning, with the intention of reaching Tibet by the country of the Kuku Nor. The journey is undertaken for the purpose of geological and physical geographical investigations. This traveller is famous for his great journey in eastern Siberia, and in particular for his ascent of the Stanovoi Mountains. The well-known French traveller, Bonvalot, accompanied by Prince Henry of Orleans, has commenced a new journey in Asia, the aim of which is nothing less than to traverse the continent from north-west to south-east. The expedition is to proceed from Omsk through Semipalatinsk to Chuguchak on the Chinese frontier, then by Manas, Urumtsi, Karashar, Korla, the Lob Nor, Chamuen-Tai, Kukusai on the upper Yang-tsi-kiang, Tsiamdo, Batang, and Yunnan, to the coast at Tong-king. M. Bonvalot is, however, quite aware that his plan may very probably have to be considerably modified.

—The grass known as "Lalang" (*Imperata cylindrica*) gives the foresters of the Malay Peninsula more trouble than our own prairie-grasses give the tree-planters of the West. This Lalang is injurious, says *Garden and Forest*, by reason of its inflammability, and because it prevents any cultivation of the land covered by it, except at great expense. Wherever land is allowed to run to waste, it is soon covered with this grass, except where the soil is wet, or sandy, or shaded by trees. The annual report of the conservator of forests at Singapore refers at great length to this plant, stating that it can be exterminated by chemicals; but these are expensive, and have an injurious effect upon the trees planted in forest upon the land afterward. When trees are large enough to throw a shade, the Lalang quickly disappears, and it cannot penetrate into forest glades if but a few trees bar its progress. The gradual planting of bushes and shade-trees is recommended as the surest remedy for this grass pest.

—An interesting study has been lately made by Herr Tarchenoff (*Pflüger's Archiv*) of electric currents in the skin from mental excitation. Unpolarizable clay-electrodes, connected with a delicate galvanometer, were applied to various parts, — hands, fingers, feet, toes, nose, ear, and back; and, after compensation of any currents which occurred during rest, the effects of mental stimulation were noted. Light tickling with a brush causes, after a few seconds' period of latency, a gradually increasing strong deflection. Hot water has a like effect; cold or the pain from a needle-prick, a less. Sound, light, taste, and small stimuli act similarly. If the eyes have been closed some time, mere opening of them causes a considerable deflection from the skin of the hand. Different colors here acted unequally. It is remarkable that these skin-currents also arise when the sensations are merely imagined. One vividly imagines, for example, he is suffering intense heat; and a strong current occurs, which goes down when the idea of cold is substituted. Mental effort produces currents varying with its amount. Thus, multiplication of small figures gives hardly any current; that of large, a strong one. If a person is in tense expectation, the galvanometer mirror makes irregular oscillations. When the electrodes are on hand or arm, a voluntary movement, such as contraction of a toe or convergence of the eyes,

gives a strong current. In all the experiments, says *Nature*, it appeared that, with equal nerve-excitation, the strength of the skin-currents depended on the degree to which the part of the skin bearing the electrodes was furnished with sweat-glands. Thus some parts of the back, and upper leg and arm, having few of these, gave hardly any current. Herr Tarchenoff considers that the course of nearly every kind of nerve-activity is accompanied by increased action of the skin-glands. Every nerve-function, it is known, causes a rise of temperature and accumulation of the products of exchange of material in the body. Increase of sweat-excretion favors cooling and getting rid of those products.

—In the summer of 1887 Herr Lindenbaum found a petroleum lake on a narrow tongue of land in the north of Saghalien. It is about twenty-two miles north-east of a village named Pomor, and at about 54° north latitude. A little south of Pomor lies Baikal Bay, a good harbor, which has a depth of eight feet at low tide, and could therefore be entered by small vessels. There would be no difficulty in making a road from this place to the petroleum lake. There is also another spot, one hundred and twenty-five miles south of the former, where petroleum is said to occur.

— Herr T. Thoroddsen was in the summer of 1889 travelling in Iceland, and has given an account of his discoveries in *Petterman's Mitteilungen*, Bd. 35, No xi. The part of the island he visited lies on the western edge of Vatna Jökull, to the north-east of Hecla. A great part of this country has never been visited by any one, for the total absence of grass for horses renders travelling difficult. All the lower slopes of Torfa Jökull are covered with lava and ashes, but the substratum and the ridge itself are composed of palagonite breccia and tuff. The large river Tungnaa approaches much nearer to Torfa Jökull than it is drawn on maps. Crossing this river, Herr Thoroddsen took up his quarters by the Fiskivötn, and made several excursions in the neighborhood. The lakes abound in trout; they are small, and are represented on the maps on too large a scale. They are not surrounded by glacial *débris*, but are almost all crater lakes. Across an extensive tract of lava, totally devoid of grass, lies the Thorisvatn, which is not a very small lake, as represented on Gunnlaugsson's map, but one of the largest in the island, and not much less than Thingvallavatn. The lakes are generally enclosed by steep mountains, so that it is difficult to approach them. It has been supposed that the rivers Skapta, Hversfisfljót, and Tungnaa rise at the same place from a glacier, and they are so represented on Gunnlaugsson's map; but Herr Thoroddsen found that the Tungnaa flows in two branches from a large glacier, the edge of which extends in a long curve from the mountains south of Vonarskard to those near Fljotshverfi, that the source of the Skapta lies about nine miles farther south, and that the Hverfisfljót rises from ten to fourteen miles still more to the south. Three serrated ridges run between the Tungnaa and Skapta, from the Vatna Jökull to the Torfa Jökull. These mountains are composed entirely of palagonite breccia, and the valleys are filled with volcanic ashes and shifting sands. Between the middle and southern ridges lies a lake about twenty-three miles long, which stretches nearly to the foot of Vatna Jökull, and, though in most places very narrow, is one of the largest in Iceland. It is fed with milky water by numerous glaciers. Near the last of these, Herr Thoroddsen, on his way to the Torfa Jökull, visited several warm springs and solfataras.

— The remark made at a recent meeting of the Royal Geographical Society by the president, *apropos* of certain explorations by Mr. Theodore Bent, viz., that there is still much work for the competent observer in regions where practically no risk need be encountered, is strikingly exemplified in the account of the last voyage of that accomplished explorer along the south coast of Asia Minor, as described in the *Journal of Hellenic Studies*. Sailing along the Carian coast, he landed in the bay of Aplotheka, at the ancient town of Loryma; and, hearing there of some ruins a few hours distant, he rowed to the place, and discovered a curious little harbor with the entrance not a stone's throw in width. Thence an hour's walk brought him to some extensive ruins, which, from an inscription, he believed himself able to identify with tolerable certainty as Kasarea. The village of Phœnike being just beyond, he could also identify with certainty the little harbor as the κρῆσα λιμήν of Ptolemy; for this harbor lies, according to that geographer, between Loryma and Phœnike. Pliny also mentions that *Portus Cressa* lies just opposite Rhodes at a distance of twenty miles, which agrees with the position. Again, a little farther along the coast, on the Gulf of Makri, Mr. Bent was able, from inscriptions on the ruins, to identify the site of a Lycian town of some importance,—Lydæ, the capital of a district known as Lydatis. A little farther on, an old Hellenic acropolis, surrounded by a few tombs, seemed, from some half-defaced inscriptions, to have been known as Lissa, though the site seems to be that assigned by Ptolemy to the town of Karya. Some of the inscriptions found in these places are of considerable interest, and the remains are described by Mr. Bent to be not without artistic merit. The whole region is now inhabited only by nomad tribes of Yuruts; and these discoveries are alluded to here merely to show how much more may be done and discovered by the explorer, within easy reach of home, than is commonly supposed. Indeed, to quote Mr. Bent's words with reference to this district alone, "Inasmuch as Pliny tells us that there were once seventy cities in Lycia and in his time thirty-six, of which he only knew the names of twenty-five, there is room for much more geographical discovery in this interesting district."

— *Garden and Forest* states that it has received at its office, as a reminder of the mild winter, a very interesting photograph of a group of Christmas roses which came from Cazenovia, N.Y., to testify how beautiful these flowers can be in mid-winter. Branches of many shrubs with fully expanded flowers were also received; and in a collection of this sort from the Meehan Nurseries at Germantown were sprays of the Cornelian cherry with the yellow stamens showing through the opening buds, and the Tartarian honeysuckle with buds just opening.

—We learn from *Nature* that remarkable phenomena are witnessed at the new observatory on the steep and isolated Säntis in northern Switzerland. Thunder-storms are extremely frequent. Thus in June and July last year, only three days were without them. As a rule, thunder peals from mid-day till evening. The noise is short, partly owing to shortness of flashes, and partly to the small amount of echo. The thunder-storms come on quite suddenly, in a clear sky. One of the surest indications of their approach is the bristling of the observer's hair. During hail the iron rods of the house give a hissing sound associated with luminous effects.

— Messrs. Houghton, Mifflin, & Co. will issue in February, as an extra number of the Riverside Literature Series, "The Riverside Manual for Teachers," containing suggestions and illustrative lessons leading up to primary reading, by I. F. Hall, superintendent of scholars at Leominster, Mass. The manual will appear later as the introductory part of "The Riverside Primer and Manual for Teachers." It points out, principally by the aid of illustrative lessons, what steps the pupil should take before beginning the primer. The primer and manual form the first book of the Riverside Reading and Language Course, which also includes "The Riverside First Reader," "The Riverside Second Reader," and, for higher grades, the regular numbers of the Riverside Literature Series. To accompany the manual and primer, Mr. Hall has designed an instruction frame equipped with three sets of language and object pictures, prepared especially for this purpose by F. T. Merrill, script and printed words and sentences, and a displaying holder. The object of the Riverside Language and Reading Course is, first, to give young children such a training as will enable them, while overcoming the mechanical difficulties of learning to read, to acquire a taste for good reading-matter, and incidentally to gain a power to express themselves orally and in writing with accuracy, good taste, and facility; and, second, to supply children of each grade with the best reading-matter that the world's literature affords.