MISCELLANEOUS INTELLIGENCE.

GARDENING, &c.

From Loudon's Gardener's Magazine, &c.

Packing Fruit Trees for Exportation.— The following is the plan adopted by Mr. PRINCE of New York, in packing fruit trees, and I can recommend, from experience, to your readers:—As soon as the tree is taken out of the ground, the roots are dipped in a thick mixture of earth and water. The roots are then tied in bundles, and dipped in all at once, and a mat is lapped over them, to keep the earth round them together. They are afterwards placed in a box, and a piece of wood is fixed across the box, over the top part of the roots, to prevent them from moving, as the branches are not lapped up at all. I have had trees packed in this manner, which have remained in the above condition four months; and, when unpacked, the roots were throwing out new fibres. This occurred last spring; and, although the season was so unfavourable, the trees made exceedingly fine strong shoots. The plan adopted by Messrs. BUEL and WILSON, of the Albany nursery, in packing their fruit trees, is as follows:—They dip the roots well in a mixture of earth and water; but instead of lapping the roots in a mat, they lay them in the end of the box, and fill in between them with wet moss, so that the lid of the box presses against the moss, and thus prevents the roots from being shaken. I, however, consider the plan of lapping the roots in a mat superior to that of filling in with wet moss, because a dampness proceeds from the moss, which produces a mildew on the branches of the trees so packed. This has been the case with trees that I have received packed in this way; but, after they had been unpacked for a short time, the mildew disappeared.

Mr. Knight's Visit to Haarlem.— Mr. Knight, of the Exotic Nursery King's Road, spent a fortnight in the bulb district, in April last, and was very much delighted with his visit. He had been in Holland and the Netherlands several times before, but never during the blooming of the hyacinths. He saw, he supposes, upwards of 100 acres covered with this plant in bloom, commencing on the road from Leyden to Haarlem, five or six miles from the latter place. It seems the soil in Haarlem is now worn out, and no longer fit to grow hyacinths in sufficient vigour; and the growers, therefore, send their bulbs to be grown, by contract, on lands in the neighbourhood of Overveen and other places, in the same manner as the London seedsmen send seeds to be grown by country seed-growers in Essex and Norfolk. Wherever the bulbs do well, he observed the soil to be of the lightest description of sand, such as can be blown away by the wind; and the water stands under it not nearer the surface than 15 in., nor farther below it than 2 ft 6 in. This, it seems, is the level of the water in the adjoining canals and ditches; and it is owing mainly to the points of the fibres going down to this water, that the plants are so fresh and vigorous, while the dry sand above prevents their bulbs from being rotted. As a proof of the exceeding lightness of the soil, immediately after putting in a crop in the spring season, the surface is raked, generally thrown into beds, and, from barrels, wheeled along the alleys between, cow-dung and water are thrown over the surface with a scoop, so as to cover it all with a thin crust, through which the finest seeds vegetate, and without which the entire surface would be blown away: the cow-dung is taken fresh from the cow-house. In these cow-houses no litter is used; the cattle stand on a level surface paved with brick; immediately behind the cows is a gutter, from which the liquid part of the manure runs off into tanks to ferment, and the remaining part is taken from the gutter for immediate use, in the manner mentioned. The cow is fastened by two ropes, one proceeding from each side through a ring in a post, and with a weight at the end; the two weights, as in the case of

horses so tied, tending to keep the cow in the middle of the stall. She eats out of a trough, which is supplied from a broad passage in front of the heads; and there is also a broad passage behind the gutter. The points of the cows' tails are all tied to the ceiling or roof, to prevent them from dropping into the gutter when the cow lies down, or from whisking about while the operation of milking is going forward. They are combed, brushed, and kept covered with a cloth during winter; and in spring, when they are first allowed to go out and graze, they are clothed with a sheet till the weather becomes decidedly warm. (See *Encyc. of Agr.*, § 516.)

Mr. Knight found forcing going forward in the manner which is practised at Hylands; raspberries ripe, and cauliflowers cut, about the middle of April. He was much taken with the standard fruit-trees, generally trained in pyramidal form; and with curious dwarfs, some of them saucer-shaped, 10 ft. diameter, and not more than 3 ft. high: others in the form of a bowl; others with a stem 1 ft. high, with only two branches proceeding from it, perfectly horizontal in position, and in opposite directions, with shoots covered with spurs rising perpendicularly from these two horizontal branches, at equal distances; those in the centre, 3 ft. high, gradually diminishing to 1 ft. at the extremities, and having, altogether, a strangely artificial appearance. These trees occur now and then in pleasure-grounds as odd ornaments.

New South Wales.—The culture of the tobacco plant has answered every expectation; 30 tons of it, as much or more than all the settlers have grown in any former year, have been produced by five estates alone. There is, therefore, a prospect that, in a few years, shiploads of it may be despatched to England for manufacture, provided the British markets afford a remunerating price. A skilful planter is reviving the growth of the sugar-cane on the river Manning. The growth of the opium poppy is more exuberant than in many countries; and the quality of the opium made from it invites its more general cultivation. It is but a few years since the olive tree was introduced in the colony; and the rapidity of its growth, together with its excessive fruitfulness, shows that the soil and climate are particularly favourable to it. Every year's experience tends to the belief that the vine will one day become an important plant in the colony. The variety of the European grapes, and the perfection which they attain, hold out a promise that wine will hereafter become the most important export of Astralia. Had the settlers been brought up in climates where the vine and olive are cultivated, wine and oil would long ago have been among the exports of the colony.

The foliage has been represented as very, nay, preposterously ugly: and so, indeed, it is; though the fault does not rest with the nature of the foliage, but in the circumstance that our timber is not only all primeval, but the natives are accustomed to set it on fire, for the purpose of attracting the kangaroos when the new grass springs up: so that you may imagine that forests, presenting an assemblage of burnt and dead trees of the most awkward and fantastic shapes, mixed with and rising above more youthful foliage, cannot be very picturesque, but rather grotesque. This is the general appearance of all the forests at present; and, until the whole face of the country undergoes the renovation of settlers, it must continue so. But, far from being ugly, the foliage is really beautiful, Nothing can be more so than the young gum trees, with large leaves; they have a good deal the character of the birch, and the leaves, hanging at an angle to catch the sun's rays, glitter splendidly. The swamp oak (Casuarina stricta?), tea tree (*Thèa viridis, L.*), apple tree, &c. &c. are all of them excellent varieties; and I have seen spots that were cleared on the first establishment of the colony, and that are now wooded, present as beautiful masses of foliage as you would wish to behold. Then we have the fan or cabbage palm, the burwan, the grass tree, and the fern tree, all of them the most beautiful things in nature; the wide-spreading fig-tree, seemingly a species of mangrove; and vines that would induce you to believe that you were contemplating the famous banyan of India: we have all these to add variety to our endless forests.—*(Gardener's Magazine.)*

Plants of interest and importance to this Colony, noticed in the English Journals. (From the Gardener's Magazine.)—Cocculus palmatus; Ducna

Hexandria, and Menisperme; a medicinal plant, known as Columbo in the materia medica, the natural history of which has hitherto been little known. It grows naturally in thick forests on the east coast of Africa; the roots are dug up in the dry season, March, and soon afterwards cut in slices, and strung on cords, and dried in the shade. They are held in high esteem among the natives for the cure of dysentry, the healing of ulcers, and as a remedy for almost every disorder.

Some of the roots have been imported to the Mauritius by Captain Owen, and Professor Boyer is trying to propagate them by cuttings of the stem, as they are found to increase very slowly by off-sets from, or divisions of, the root. Should he succeed, the culture of Columbo root may become an object of general industry in the Mauritius. As a medicine, this root has been long known and esteemed, both in the East Indies and in Europe, where it is found to be of singular efficacy in strengthening the fibres of the stomach and bowels, not only in chronic cases, but in the cholera morbis, dysentery, and diseases of the alimentary canal.

Bomplandia, (Humboldt's Companion,) trifoliata; Simærubia.

An elegant ever-green tree; from 60 to 80 feet high; a native of South America, and the bark of which is known in the Pharmacopœias under the name of Augustura or Cusparia. This bark has a disagreeable smell, and a bitter taste; slightly aromatic; by analysis it contains cinchonia; resin, a peculiar variety of extractive, carbonate of ammonia, and essential oil. There is a false bark employed in commerce; but from what tree is not correctly ascertained; it is known from the other by having no smell, and by being one of the most energetic of vegetable poisons; the true Augustura bark is a valuable tonic, and has been considered more powerful in many diseases than the Peruvian bark.

Croton Eleuteria. Jamaica and St. Domingo, with brittle branches, which, when broken, oose out a thick balsamic juice. The bark has an agreeable aromatic odour, and when burnt, emits a smell resembling that of musk. It has been used a good deal in Germany as a substitute for the Peruvian bark, and also for mixing with tobacco for smoking. In England it is used as a stomachic.

Quercus Robur. Cut in spring, the bark will be found to contain four times as much tannin as when obtained in winter. Oak bark is a powerful astringent and tonic, and united with bitters and aromatics, has been recommended in intermittents. When cinchona bark cannot be obtained, and the stomach rejects its preparatians, oak bark may be found of service; but the former is so superior to all its competitors, that oak bark is but a poor substitute.

Querous infectoria. This species producees the nut-galls of commerce, as Olivier in his travels in the Ottoman empire first discovered. It is scattered throughout all Asia Minor, and as far as the frontiers of Persia. The fruit is solitary, and nearly sessile. The galls are produced on the young branches, from the puncture of a small hymenopterous insect of the Linnean genus Cynips, but which was first described by Oliver in the Encyclopedie Methodique, under the name of Diplolepis galla tinctoria, the insect punctures the tender shoot with its curious spiral sting, and deposits its egg in the puncture, in a few hours the cellular tissue swells; a turn-over is produced, and the egg becomes enclosed in a fleshy chamber, which not only serves for shelter and defence, but also for food; the larva feeding upon its interior, and there undergoing its metamorphosis. The oak-apple is an excrescence of the same nature, though effected by a different insect. The best galls come from Aleppo; and the produce of the first gathering, before the fly has issued from the gall, are the most valuable. With the assistance of heat, galls are almost entirely soluble in water; and the decoction precipitates the oxides of iron of a deep black colour.

Amyris gileadensis. Terebintaceæ. A small stunted looking ever-green tree; a native of Arabia, near Yemen, and, according to Bruce, of Abyssinia. Though not a native of Judea, it was cultivated in great perfection many centuries before Christ in the gardens near Jericho, on the banks of the Jordan; and it was from Gilead, in Judea, whence the merchants brought the resinous product to Egypt, that it derived its appellation of

Balsam of Gilead tree. The balsam is a resinous juice that distills from the tree naturally. It is at first turbid and white, of a strong pungent agreeable smell, and slightly bitter acrid taste; upon being kept, it becomes thin, limpid, of a greenish hue, then of a golden yellow colour, and at length like honey. It is highly prized among the eastern nations, particularly by the Turks and Arabs, both as a medicine, and odoriferous unguent and cosmetic. It has been highly extolled as a powerful antiseptic, vulnerary, and preventative of the plague. In its medicinal properties, it agrees with the balsam of Tolu, Peru, and others of the same class; but its great scarcity has prevented it from coming into use among the European practitioners. It is extremely liable to adulteration, and from its high price and scarcity, we believe that a single ounce of genuine balsam of Gilead is not to be obtained in this country, or even in Europe.

Double Cocoa-nut.—For a long time the palm which yields the double cocoa-nut was altogether unknown: the fruit was found either at sea, or cast ashore on the Isle of France, and generally in a state of decay, or perforated by insects, and its origin was considered to be mysterious. It has, however, been completely ascertained that it grows on the Seychelles, a group of islands to the north east of Madagascar; and it is perhaps the most *local* plant in the world, being confined to three small islands, called Praslin, Curieuse and Ronde, within a half a mile of each other, mountainous and rocky, and the soil poor. The trunk of this splendid palm rises straight to the height of 60 or even 90 feet, and is crowned at top with a tuft of from twelve to twenty magnificent leaves, each leaf nearly 20 feet long, and 10 feet wide. The male and female flowers are produced on different trees. The structure of these and of the nuts have lately been fully described and illustrated by our distinguished countryman, Dr. HOOKER, in the Botanical Magazine. Through the zeal and attention of Mr. TELFAIR of the Mauritius, and Mr. HARRISON of the Seychelles, germinating nuts of the double cocoa are shortly expected in this country; and this palm will, we hope, ere long be seen flourishing in the stoves of our Botanic Garden.

Cycas revoluta. Flowered last summer at Wentworth House. Thrives at Madeira, in a spot 300 ft. above the level of the sea. "The Japanese, of whose country the plant is a native, eat the fruits; and from the trunk extract a kind of sago, which it highly esteemed, especially by the people of rank. On this account, the plant is much cultivated about their houses, and is forbidden to be exported. A very small quantity of the medulla or pith suffices to satisfy the hunger of a soldier in the time of war."

Cerbera Tanghin; Apocyneæ. A Madagascar tree, which produces a hard veined wood, fit for cabinet-work and inlaying, and a fruit, the kernel of which is rather larger than an almond, and so powerful a poison that one kernel would destroy above twenty persons. In Madagascar this poison is used as an ordeal; and the priests, who at the same time are the physicians, administer it to the victims, not doubting its power of revealing guilt or clearing innocence.

Papaver somniferum. A showy garden annual in England, but in Turkey, Persia, India, and other warm climates, extensively cultivated for the purpose of obtaining opium, and for the warm bland oil which is expressed from its seeds, and serves as a substitute in these countries, as well as in Europe, for the oil of olives. "The unripe capsules, upon being wounded as they grow, exude plentifully a whitish, opaque, milky juice, which by drying becomes opium.... The plants in the East are well watered from the time when the flowers begin to appear till the capsules are half grown, when it is discontinued, and they begin to collect the opium. This they effect by making, at sunset, two longitudinal incisions from below upwards, without penetrating the internal cavity, with an instrument that has two points as fine and sharp as a lancet. The incisions are repeated every evening, until each capsule shall have received six or eight wounds, and they are then allowed to ripen their seeds. The juice which exudes is collected in the morning by women and children, who scrape it off the wounds with a small iron scoop, and, being inspissated to a proper consistence by working it with wooden spatulas in an earthen pot in the sun's heat, it is formed into cakes for sale." In Britain, opium has been obtained from the poppy, said

to be in no degree inferior to the Oriental. In 1796, Mr. Ball, and in 1819, Mr. Young, were both rewarded with premiums from the Society of Arts for growing the poppy for its opium, and for its oil; and Mr. Young, who is a surgeon in Edinburgh, found that a crop of early potatoes may be grown along with the poppies.

Camél*lia* japónica, Japanese, or *Single Red*, C.; *Bot. Mag.* t. 42. This is the first species that was introduced into this country, and is stated in the *Hort. Kew.* to have been cultivated by Robert James Lord Petre, in 1739. It is not noticed in the 8th edition of *Miller's Dictionary*, published in 1768, so that it must have been rare at that period; one reason for which is, that it was generally treated as a stove plant: afterwards it was found to succeed in a much lower temperature. In China it is said to grow freely, and attain the height of one of our cherry trees. In this country, being of free growth, and easily increased by cuttings, and being also the hardiest of all the species or varieties, it is employed as a stock on which to graft or inarch all the others. In the neighbourhood of London, in Paris, and in some of the country nurseries, it is extensively grown for this purpose.

C. oleífera, Oil-bearing C.; *Bot. Reg.* f. 492, *Bot. Cab.* t. 1065. The Chinese call it the "oil-bearing tea plant," as it very closely resembles tea. Dr. Abel sometimes found it of the magnitude of a moderately sized cherry tree, and never less than the size of a shrub of 6 or 8 ft. high. At a distance these plants looked as if they had been lightly clothed with snow, but nearer they exhibited one immense garden. This species is said to have been originally brought to the country by Lord Macartney, but was afterwards lost till 1820, when it was reintroduced by Captain Nisbett. It is readily distinguished from C. *Sasánqua*, by being of a much more robust habit, larger in every respect, with thicker leaves, with moderately large serratures, and sharp at the point.

C. *Sesánqua*, the Sesanqua of Japan, and Cha-Whaw of China; Lady Bank's Camellia. Introduced by Captain Wellbank of the East India Company's service, in 1811. Of a loose straggling habit; but, if the principal stem is supported when young, it will attain the height of 6 or 8 ft. Leaves elliptic lanceolate; flowers white, opening in November and December; very much resembling those of the tea tree. There is a semi-double variety, *Bot. Reg.*, f. 1091. It is extensively cultivated in China for the same object as the C. oleífera; crushing the seeds for oil, and adulterating tea with the leaves. In China it is said to grow on the debris of rocks and stones; here it succeeds best in moderately strong, rich, sandy soil, and is readily increased by inarching or grafting on C. japónica.

C. japónica *anemoneflòra*, Anemone-flowered Japanese, or *Waratáh* C. Introduced about 1806; very distinct from any of the other Chinese varieties, and readily distinguished by its flat and comparatively narrow pointed leaves, and long slender footstalks. The flowers are remarkably showy, and resemble a large double anemone. Like those of some other varieties they drop off whole, and will retain their freshness for a considerable time afterwards; so that, if placed upon a bud, they appear to be still growing.

The Guaco Plant.—In addition to the beautiful account given by Sir Robert Ker Porter, Sir Ralph Woodford, as well as other learned gentlemen, of the guaco plant, I transmit the following accounts, which have come under my own knowledge, respecting its efficacy in curing the bite or sting of those poisonous reptiles which abound in South America, as well as in other warm countries:—As a man named Santiago was clearing land on an estate called Bogade Topo, he was stung by a tiger snake in the leg. In a few hours his leg swelled very much, and the flesh about the part stung turned quite black. The juice of the guaco was at length procured, and he drank a wine-glassful every hour, for six hours, and the part affected was rubbed with the leaves. The pain ceased, and the swelling shortly went down without any sensation; but, for several days, the part affected remained black. Two slaves on an estate called Pilinseat, in the valleys of the Toye, were stung by a rattle-snake. The poor fellows suffered much before the juice of this vine could be procured: their legs and bodies swelled. They drank very freely of the juice, and rubbed their bodies for several hours. In

the course of 12 hours, the pain ceased, and, shortly after, the swelling went down; but it was several weeks before they were fit to work. A man named Don Pedro Pearos, who lived in the neighbourhood of Caraccas, was stung by a correll snake, and his life was in imminent danger. After drinking the juice for 18 or 20 hours, he got some relief; and, in the course of 48 hours, the swelling went down. A large piece of the flesh fell off the leg; and the part that received the sting, and the hollow of the wound, still remain, the part never filling up. Seeing the great virtue of this most valuable vine, I procured it, and cultivated it in my botanic garden at Caraccas, where persons daily apply for it. I gave two bottles of the juice to Mr. Ryan, who had laboured under rheumatism for several years. In four days after using it, the swelling went down; and in ten days he was enabled to attend to his work. I gave it to a Mr. Bell; and, in like manner, he got well in a few days. I also gave two bottles to a gentleman in La Guarryro, who was troubled with the gout. He got so well from drinking the two bottles, that he considered himself finally cured; and, having such good faith in it, he sent some bottles to a lady, a relative of his, in Hamburgh. In applying it for the tooth-ache, one drop is sufficient to remove the most violent pain. The dose is a wine-glassful, morning, noon, and night. It increases the appetite, and keeps the bowels gently open.—*D. Fanning. London, Dec.* 1829.

Tobacco.—Many cottagers, both male and female, smoke tobacco; and we do not see why they should not, if it procures them any enjoyment, and does not annoy others. Tobacco, in decoction, is also one of the most universal and efficacious poisons for insects; and the cottager ought to know, that, with a stock of tobacco which has been fermented in the manner of hay, and with quick-lime for forming lime-water, he may destroy every insect, worm, reptile, or fish, with which he can bring one or the other of these articles in contact, Lime-water, which is made by throwing a pint of quick-lime, in powder, into 40 or 50 gallons of water, stirring the mixture well, and letting it stand half an hour to become clear, will destroy earth worms, snails, frogs, lizards, snakes, and most kinds of caterpillars before they are fully grown. It will not, however, destroy the scaly insect, woolly insect, or red spider, on trees, or the grub of the cockchaffer, or the wire worm (the grub of a species of Ti-pula), in the soil: but for these a strong decoction of tobacco will be found effectual. Every cottager, therefore, ought to grow 30 or 40 plants of tobacco. He may sow the seed in a pot, and place it in the inside of the glass-window of his cow-house, where it will get heat from the cow, and light from the open air, in the beginning of April; and transplant it into his richest soil, in a month afterwards. When the stem begins to show flower, or has thrown out five or six leaves, he may pinch out its centre bud; this will increase the magnitude of the leaves, which may be gathered just before they begin to show symptoms of decay. The bottom leaves will be first ready, and there will be three gatherings in the season, each of which should be first slightly dried in the shade, and then put under a mat to be fermented in the manner of new hay. After having lain in this state for some weeks, it may be moistened with salt and water, rolled up into balls, and kept in a cool and rather moist place till wanted for use. In the north of Europe, where the common or round-leaved tobacco (N. rustica) is grown by every cottager for smoking, they do not take the trouble of fermenting it, but simply dry the leaves, and keep them in bundles in a dry place, till wanted for filling their pipes. We see no reason why a cottager should not manufacture both his tobacco and his snuff, and we shall hereafter give him copious directions for both.—*(Gardener's Magazine.)*

Those who have Quince hedges round their Gardens, may find it profitable to engraft good Apples on those branches of the Quince stocks which form the inner side of the hedge.

To train trees on a wall having a southern aspect, in England, is estimated as equivalent to the influence of a climate 7° nearer the equator.

The sets of the extreme end of the Potatoe are found to grow faster and ripen about a fortnight earlier than those from the root end.

Potatoes, after being washed, may be put so to boil in cold water, with-

out being peeled; when half done, the water may be poured from them, and fresh cold water added, which is also to be poured away when they are done sufficiently. They are then to be left by the fire to dry for some time, and will be found more floury when boiled in this way than when the water is not changed.

To supply with vegetables a cottager's family, in England, including pigs and poultry, is estimated to require, on an average, 1 rood of land,—about $\frac{1}{8}$ of a morgen.

The young glaucous shoots which spring from the collar, and a little way up the trunk of Pinus longefolia, P. canariensis, P. sinensis, &c. strike root readily, and in a short time make as handsome plants as those raised from seeds.

Grapes during the last severe winter (in Europe) were preserved in great abundance, at Florence, during four months after they were cut, by being kept hanging in rooms without fires.

AGRICULTURE.

Mr. Edward Petri, in a memorial presented to the Academy of Sciences of Paris, at their sitting, May 3, announces that in sheep in a state of nature, the nutritive fluids should be found divided among the flesh, the fat, and the wool; but, by frequent clippings when the animal is young, we may determine these fluids in greater quantity towards the skin, to produce there a more abundant fleece. He asserts that he has made a successful application of this theory, and that the practice increases the fineness, as well as the quantity of the fleece, and that this amelioration may, with due attention, be transmitted by breeding.

Soils are deteriorated by exposure to the sun and air,—the best and most nutricious element in soils is sagiline, and flies off in exhalation, and too frequent turnings may disperse a great proportion of it. A thin light straggling crop, which too freely admits the parching rays of the sun, will certainly be succeeded by another thin crop. The ground under a heap of stones which has lain in a fallow field during a summer, will, by the superiority of its crop, be distinguished during the two succeeding crops. So much does the shading of ground preserve its nutritious qualities.

On Wells for Irrigation.—These offer the following advantages:—The immense resources for irrigation, cannot fail to produce a rapid extension of agricultural speculation, by rendering productive, lands which seemed condemned to perpetual sterility, by disseminating cultivators more equally over the surface, in consequence of their procuring, where they require it, abundance of this necessary element. The art of boring those artificial springs which seemed in France confined to the chalk soils of the North, is being generally adopted over the whole kingdom; numerous associations have been established for the purpose, some of whom are carrying on their operations at great depths, with every prospect of success. There are many things regarding these operations still undetermined, which, it is expected, future researches will soon clear up, viz. the entire depth of the Jura limestone, and of the marine clays, and of the great mass of the chalk, and, lastly, of the great depositions of quick-sand between certain of the tertiary formations, which has rendered it necessary to abandon a great many wells already of considerable depth.—*Royal Agricultural Association, Paris.*

ZOOLOGY.

Mr. Dureau read a memoir on the developement of the intellect of animals, in which he pointed out the effects of example and instruction on animals living in society. Dogs appeared to him to adopt the faults of their masters; and like men, they seem to feel pain more acutely as they become more civilised. He allots to animals, 1st, A blind instinct; 2d, A faculty of imitation; 3d, An intelligent will, and a faculty of comparing and judging. During a thirty years residence in the Louvre, he observed the sparrow-hawks which took refuge there, giving singular lessons to their young, when the parent returned with a bird or mouse it called the young around it, and let fall the prey to be seized by them, itself taking care, if the object escaped them, to seize it again before it reached the ground; this process was repeated subsequently with living captives, and their education terminated when the young could seize such with facility.—*Acad. Sciences, Paris.*

GEOGRAPHY AND GEOLOGY.

Dr. Siebold, of whose labours and collections relative to Japanese literature we had occasion to speak in a late number, has unfortunately excited the suspicions of the Japanese government. He had obtained from the astronomer of Jedda, (the capital of Japan,) a set of maps of the empire. The magistrates of Wangasaki, one of the five imperial cities, caused him to be arrested, and the maps to be taken from him; his papers were also seized and examined. In other respects he has been treated with great lenity, and it is now hoped that he will shortly be liberated, and allowed to return to Europe. The Dutch are the only Europeans whom the Japanese admit to trade with them, and it was in the capacity of physician to the Dutch factory that Dr. Siebold had been allowed to enter Japan.

Pyrenees.—By an arrangement opposite to that which is observed in all other great chains, the flanks of the mountains present very few shells: it is only the summits which abound with the debris of organized bodies, and hence numerous objections had been drawn against the laws which Pallas and Saussure had recognized in the structure of mountains. M. Ramond found, indeed, calcareous beds of shells dipping to the south, and in an ulterior survey he discovered the schists and the granites which run beneath the calcareous strata. Returning farther to the north he saw these schists and granites arranged in parrallel lines, but inferior to the great crest. Farther north still he again found the calcareous strata resting in parallel lines on the granites and schists; but these last lines were the least elevated of all. Henceforth order was, in his opinion, again established. The granite forms, as every where else, the axis of the chain; but there is a singular inequality of level between the collateral crests of the north and those of the south; and upon the latter we meet in ascending the same series of beds which on the other we follow in descending. *Moni-Perdu* is the first of calcareous mountains, as Mont-Blanc is the first of granite mountains, and, though less elevated, it does not yield to Mont-Blanc either in the aspect of the ruins which surround it, or in all the imposing spectacles which characterize the most terrible revolutions. "We seek even in vain," says M. Ramond, "in the granite mountains, for those simple and impressive forms, those large beds which stretch out into walls, which bend into amphitheatres, which form themselves into terraces, and shoot up into turrets where the hands of giants seem to have applied the line and the plummet."

Mr. Faraday on the flowing of Sand under pressure.—This was an experimental account of the very curious experiments made by M. Huber Burnant, on the intermediate properties which sand exhibited between those of solid and fluid bodies. Sand prepared so as to be uniform and free from dust, will flow in the air at angles above 30 or 32 degrees, but not at smaller angles. Sand put into a box or reservoir, and allowed to flow out at an aperture, either in the bottom or side, amounts to the same quantity passed, whatever the height may be, or whatever the pressure there exerted, being in this respect quite unlike fluid; so that perhaps it may be made to constitute a moving force probably more independent of deranging causes than any other which can be devised. When a perpendicular tube is filled with sand, very little of the weight of the sand is supported by the bottom, but nearly the whole is supported by the sides. If a tube, an inch in diameter, be filled for about six inches, or more, with sand, and laid horizontally, all attempts to push the sand out the tube by a stick of nearly the diameter, will fail. These and many more curious facts, with their general principles and applications, were explained and illustrated.

Icebergs.—The journals of the ships of the East India Company, during the whole of the last century, contain no accounts of icebergs having been seen in the course of their navigation in the southern hemisphere, although several of these ships proceeded into the parallels of latitude 40°, 41°, and 42°. But, during the last two years, it appears that icebergs have occasionally been met with by several ships in their passage, very near the Cape of Good Hope, between the latitudes of 36° and 39°. The particulars relating to these observations are detailed in the paper. The most remarkable occurred in the voyage of the brig Eliza from Antwerp, bound to Batavia,

which on the 28th of April, 1828, fell in with five icebergs in latitude 37° 31'S., longitude 18° 17' E. of Greenwich. They had the appearance of church steeples, of a height from 250 to 300 feet; and the sea broke so violently against these enormous masses, that it was at first suspected they might be fixed on some unknown shoal, until, on sounding, no bottom could be discovered.

It is remarkable, that, in general, icebergs seem to be met with in low latitudes nearly at the same period of the year, namely, in April or May, in both the northern and southern hemispheres, although the seasons are reversed in these two divisions of the globe. In order to account for the origin and accretion of the southern icebergs, the author thinks it probable, that there exists a large tract of land near the 20th degree of east longitude, whence these icebergs have been carried in a N. and N.E. direction, by the united forces of current, wind, and waves, prevailing from S.S.W. and S.W. Bouvet's and Thompson's islands are not of sufficient magnitude; and Sandwich land and Kerguelin's island are too remote to be the source of the icebergs lately observed in the vicinity of the Cape. From their unprecedented descent during the last two years, it is most probable that the disruption of these masses of ice from the places of their formation, was the effect of some powerful cause, or rare occurrence, such as an earthquake or volcano, which has burst forth and convulsed the inaccessible regions of the south, leaving no other testimonials of the event, than some few fragments of ice, scattered at a distance in the Indian Ocean.—*Capt. Horsburgh, Royal Society, London.*

ASTRONOMY.

"Within these few days has arrived, a first series of standard transit observations made by Mr. Fallowes, at the Cape Observatory. They are as yet unpublished. Knowing, however, intimately as I do, and having witnessed his early Astronomical career, I may be permitted to felicitate you on their arrival, confident that whatever comes from him will be honorable to his country, for it will be worthy of himself."—*(Speech of the President of the Astronomical Society, London, Feb. 12, 1830.)*

A simple and ingenious method of determining the mass of the Moon, by observing the right ascension of the bright limb of Venus, has been proposed by Professor Airy, with a request, that the society would use their influence in obtaining for it, an extensive circulation. Copies have accordingly been forwarded to every public and private Observatory in Europe.—*(Report of the Astronomical Society for 1829.)*

Approach of Stars to the Moon.—Numerous and excellent observations of Aldebaran, have already been communicated. In some instances the star appeared instantaneously after the bisection of its disc by the moon's limb, while in others the projection lasted nearly six seconds. It does not appear that a sensible diminution of brightness was perceived previous to immersion. When a sufficient number of well-attested appearances has been collected, it may be possible to account for the anomalies which have hitherto been so perplexing. The attention of Astronomers towards this interesting phenomenon is earnestly requested during the present year. Neither should the predicted occultations of other stars be neglected by observers. It is from them that the most accurate determinations of longitude are in the generality of cases to be obtained.—*Ib.*

MEDICINE.

Mr. Leroux has discovered in Willow-bark (of Salix helix), a crystalizable principle, possessing the febrifuge property to such a degree, as to approach that possessed by the sulphate of Quinine,—announced as one of the most important discoveries lately made in therapeutics.—*Acad. Sciences, Paris.*

Siamese Youths.—They are both of the same height, namely, five feet two inches; and their united weight is one 180 lbs. They have not the broad and flat forehead so characteristic of the Chinese race; but they resemble the lower class of the people of Canton in the colour of their skins and the form of their features. Their bodies and limbs are well made. The band of union is formed by the prolongation and junction of the ensiform cartilages of each, which meet the middle of the upper part of the band, and form

moveable joints with each other, connected by ligamentous structure. Underneath the cartilages there appear to be large hernial sacs opening into each abdomen; into which, on coughing, portions of the intestine are propelled as far as the middle of the band; though, in ordinary circumstances, these herniæ are not apparent. The entire band is covered with common integument; and when the boys face each other, its length at the apex is one inch and three quarters, and at the lower edge not quite three inches Its breadth from above downwards is four inches, and its greatest thickness nearly two inches. In the centre of the lower edge there is a cicatrix of a single navel. It possesses little sensibility, and is of great strength; for upon a rope being fastened to it, the twins may be pulled along without occasioning pain; and when one of them is lifted from the ground, the other will hang by the band alone, without sensible inconvenience. For the space of about half an inch from the medial line of the band, the sensibility of the skin appears to be common to both. The following experiment was tried upon them by Dr. Roget. A silver tea-spoon being placed on the tongue of one twin, and a disk of zinc on the tongue of the other, the moment of the metals were brought into contact, both the boys exclaimed "*Sour, sour:*" thus proving that the galvanic influence passed from the one to the other through the connecting band. Another simple but clever experiment (which we need not detail, as all philosophical inquiries are not fit for publication) proved that the sanguineous inter-communion was not common to the two.

Their strength and activity are very remarkable. They can throw down with perfect ease a powerful man. They run with great swiftness, bend their bodies in all directions, and in their sports often tumble head over heels without the least difficulty or inconvenience. In all the bodily actions in which the concurrence of both is required, such as running, jumping, playing at battledore and shuttlecock, they exhibit a wonderful consent, or agreement, without the appearance of any previous communication of their intentions. The intellectual powers of each are nearly equal; and they have both attained the same degree of proficiency in the games of chess, draughts, and whist. They both possess great powers of imitation. In their respective physical constitutions, however, several differences are observable. Chang, as the boy on the left is named, has more vigorous health, and greater regularity of functions, than his brother, whose name is Eng. In general they take their meals, and obey the calls of nature, at the same time. The author details the circumstances of a catarrhal complaint which attacked both of them in December last, the symptoms and progress of which were similar in each; and from which they both recovered in the same manner and at the same time. In their healthy state their pulses are generally alike, and are easily excited; but that of the one may be accelerated, while that of his brother continues calm.

In their habits they are very cleanly and delicate; in their dispositions affectionate and grateful for every kindness shown to them. There exists between them the most perfect harmony. They always fall asleep at the same moment: and it is impossible to wake the one without also waking the other.—*G. Bolton, Esq. Royal Society, London.*

ARTS, &c.

A new Corn Mill is now exhibiting at 175, High Holborn, London, of which much is said in commendation. The mill occupies a space but 5 ft. square, and it is perfectly portable. It is propelled by a single horse, and by one operation will grind and bolt 1 cwt. of grain per hour. The firsts, seconds, pollard, and bran perfectly separated. The stones are formed upon a new principle, of which the basis is the French Burr.

The Wheels of Carts and Wagons have lately been much improved by the introduction of cast-iron naves, or stocks. These stocks are found particularly suitable for warm climates, and I send a great many yearly to the West Indies, and to other warm countries. I may notice to you, that the very first pair I made of them, in July 1808, have been ever since in use; the wooden parts, or spokes and fellies, were entirely removed about eighteen months ago; and the wheels are now, after the space of twenty years, nearly as good as ever they were.—*Samuel Morton. Leith Walk, Edinburgh.*

A cheap and elegant Method of obtaining the impression of Leaves and Plants.—Take strong smooth wove paper, oil it well with sweet oil; after it has been in oil a few minutes (or long enough to soak through), rub off the superfluous oil with a rag, then let it hang in the air to dry. After the oil is well dried in, take a lighted lamp, and raise up the wick in the lamp, that it may make a strong smoke; then take the oiled paper, and hold it in a horizontal position over the smoke, moving it slowly over the smoke and flame (so as not to burn it) until it is perfectly black. The plants or leaves of which you wish to take the impression should be pressed in the inside of a large book; when sufficiently pressed (which requires nearly a day), take them out, and lay the under side of the leaves carefully upon the oiled black paper; then lay upon the top of the leaves or plants some clean soft blotting-paper, and press it equally in all parts with your finger, for about half a minute; then take up your plants or leaves, and be careful not to disturb their order, and place them on the book or paper (which should be previously damped), on which you mean to have the impression: cover them with a piece of blotting-paper, and rub it with your finger for a short time, then take off the plants or leaves, and you will have an impression superior to the finest engraving. The same piece of black paper will serve to take off a great number of impressions, so that, when you have once gone through the process of blacking it, you may make several impressions in a very short time. The principal excellence of this method is, that the paper receives the impression of the most minute veins and hairs; you may thus also obtain the general character of most flowers in a way much superior to any engraving. The impressions may afterwards be coloured according to nature. A soft, fine, wove paper, on which to take the impressions, and which should be previously damped, makes them much more fine and beautiful.

STATISTICS.

From 1780 to 1806, the population of Amsterdam consisted of nine-tenths of Christians, and one-tenth of Jews, which latter were excluded from all liberal possessions, and confidential or honorable situations; the criminals of that persuasion then had the proportion of one-ninth of the whole criminals. In 1806, the Jews obtained a partial relief, and the number of their criminals diminished, till, in 1816, they formed only one-thirteenth. In 1811 they were completely emancipated, and during the five subsequent years the criminals of the Jewish faith were in the proportion of only one-twentieth of the whole of all persuasions.

On the difference in Mean Longevity between the Rich and Poor. (Annales d' Hygiéne Publique et de Medecine. Legale, Avil, 1830.)——In the 20th volume of this Journal, p. 212, a notice has been introduced among the articles of Medical Intelligence, from the Researches of M. Villerme, of Paris, on the relative mortality and longevity of the rich and poor orders of society in the French capital; and from that notice it appears, that in the arrondissements of Paris inhabited chiefly by the rich, the annual mortality is from one in 43 to one in 54, while in those inhabited chiefly by the poorer ranks the mortality is so great as one in 24 or 25. This inquiry has been since taken up by M. Benoiston de Chateauneuf, who arrives at the same conclusion from different data. He restricts his researches to the very highest and the very poorer ranks.

For data as to the mortality of the former, he takes the various princes of Europe, the great church signitaries, comprehending the whole cardinals, and the archbishops of France,—the peers of France and England,—and the lieutenant-generals, vice-admirals, presidents of the highest courts, directors general, ministers and councillors of state in France. These, at the beginning of 1820, formed a body of 1600 persons, whose ages extended from twenty to ninety-five,—namely, 53 between twenty and thirty, 157 between thirty and forty, 370 between forty and fifty, 391 between fifty and sixty, 361 between sixty and seventy, 189 between seventy and eighty, 78 between eighty and ninety, and one above ninety. The number of these individuals who died in the each of the ten years ending with 1829, was 57, 47, 49, 56, 61, 46, 51, 50, 46; which, taken together, form one-third of the whole. The mortality at different ages was as follows: Of those between the ages of thirty and sixty, about three and a quarter per cent. died annually; be-

tween sixty and eighty, eleven and two-thirds per cent.; above the age of eighty, thirteen and a quarter.

The other term of comparison is procured by taking 2000 of the inhabitants of the 12th arrondissement of Paris, where the workmen belong almost entirely to laborious trades, and are so poor that at least three-fourths of them die in the hospital. Among these 2000 individuals, M. Benoiston de Chateauneuf found, that of persons between the ages of thirty and sixty, seven and a quarter per cent die annually; between the ages of sixty and eighty, twenty-one and nine-tenths; and above eighty, all died within one year. The relative mortality at short intervals of ages will appear from the following table, where the first line indicates the intervals of age, the second the annual per centage of deaths in the richest order of society, and the third the annual per centage in the poor ranks.

30 to 40	40—50	50—60	60—70	70—80	80—90.
Rich, 1. 08,	1. 17,	1. 99,	3. 60,	8. 04,	13. 22.
Poor, 1. 57,	2. 13,	3. 50,	7. 50.	14. 36.	100. 0.

It appears from an important document, printed a few months ago, by the Faculty of Advocates of Edinburgh, that in that body, consisting of individuals who enter in not younger than 21, and on an average at the age of 23 or 24, the expectation of life, or the number of years which they live, one with another, after their admission, is 402-11ths nearly. This calculation is taken from the lives of 210 individuals, the whole of whom entered before the year 1765; and since then it is well known that the average duration of life has been considerably improved. Among the 210 individuals, 113 survived their entrance (at the age of 24) 40 years or upwards; of these 118, 29 survived between forty and forty-five years; 25 between forty-five and fifty; 25 between fifty and fifty-five; 17 between fifty-five and sixty; 13 between sixty and sixty-five; 3 between sixty-five and seventy; and one survived 73 years.

DOMESTIC ECONOMY.

Fuel for the purposes of Heating and Cooking.—In order to ascertain what quantity of ground will grow a faggot to consist of eighty black Italian or Lombardy poplars, or Huntingdon willows, of three years' growth. These we shall suppose to be grown in rows, 2 feet apart, and the plants 6 inches distant in the row. At this rate every plant will occupy a square foot, and as there are 43,560 feet in an acre, that space will consequently produce 544 faggots every third year, or every year 181 faggots of three years' growth, which are thirteen more than will be wanted for the purposes of baking and warming throughout the year. Now, these 13 faggots being composed of 1040 shoots, say only 1000, suppose them to be distributed at equal distances throughout the acre, and allowed to attain five years' growth instead of three, this will give 200 trees a year, three-fourths of the length of which will cut up into bundles of billet-wood from 2 inches to 5 inches diameter, for cooking on the open fire; and the side spray, and the remaining third part of the stem may be made into faggots, to make good the requisite number for the oven, or to compensate the injury which these 1000 larger trees may do to the 30,560 among which they are placed: this calculation we think is sufficient to show that an acre of wood applied to cottages on our construction, and probably even to those on the ordinary plan, will supply fuel for every year.

On the poisonous Effects of certain spoiled Articles of Food.—(Archives Generales de Medecine, Fevrier, 1830.)—It is well known that certain articles of food have been frequently observed on the continent to acquire poisonous qualities of a peculiar kind, and in a way which chemists and physicians have not hitherto been able to explain very satisfactorily. Among these articles the most frequent are a peculiar kind of sausage, and a particular kind of cheese used in Germany; but both in France and Germany bacon and ham have been also several times found to acquire poisonous qualities analogous to those which characterize the sausage poison and cheese poison. A very elaborate inquiry into an accident supposed to have arisen from spoiled ham, has just been published by M. Olivier, in the Archives Générales de Medecine. His investigations set completely at rest the common notion that such accidents arise from the accidental impregnation of the meat with metallic poisons; but he has not succeeded in discovering the real cause.