rarified, before it enters the apartment; this meets all the necessary conditions of freedom from exposure, and a plentiful supply of as good air as can be obtained. Those who believe that constant exposure to night air is not injurious, have never had the good fortune of trusting to that notable appendage, placed so prominently on man's front for a detector, viz., a good old factory explorer.—*Scientific American.*

Sleep.

No person of active mind should try to prevent sleep, which, in such persons, only comes when rest is indispensable to the continuance of health. In fact, sleep once in twenty-four hours is as essential to the existence of mammalia as the momentary respiration of fresh air. The most unfavourable condition for sleep cannot prevent its approach. Coachmen slumber on their coaches, and couriers on their horses, whilst soldiers fall asleep on the field of battle, amidst all the noise of artillery and the tumult of war. During the retreat of Sir John Moore, several of the British soldiers were reported to have fallen asleep upon the march, and yet they continued walking onward. The most violent passions and excitement of mind cannot preserve even powerful minds from sleep; thus Alexander the Great slept on the field of Arbela, and Napoleon on that of Austerlitz. Even stripes and torture cannot keep off sleep, as criminals have been known to sleep on the rack. Noises which serve at first to drive away sleep, soon become indispensable to its existence; thus a stage coach stopping to change horses, wakes all the passengers. The proprietor of an iron forge, who slept close to the din of hammers, forges, and blast furnaces, would awake if there was any interruption to them during the night; and a sick miller, who had his mill stopped on that account, passed sleepless nights, until the mill resumed its usual noise.—Homer, in the Iliad, elegantly represents sleep as overcoming all men, and even the gods, excepting Jupiter alone.

The length of time passed in sleep is not the same for all men: it varies in different individuals and at different ages; but it cannot be determined from the time passed in sleep, relative to the strength or energy of the functions of the body or mind. From six to nine hours is the average proportion, yet the Roman Emperor, Caligua, slept only three hours. Frederick of Prussia and Dr. John Hunter, consumed only four or five hours in repose, while the great Scipio slept during eight. A rich and lazy citizen will slumber from ten to twelve hours daily. It is during infancy that sleep is longest and most profound. Women also sleep longer than men, and younger men longer than old. Sleep is driven away during convalescence, after a long sickness, by a long fasting and abuse of coffee. The sleepless nights of old age are almost proverbial. It would appear that carnivorous animals sleep in general longer than the herbivorous, as the superior activity of the muscles and senses of the former seem more especially to require repair.—*Ib.*

Wonderful Musical Precocity.

We have received, from a respectable citizen of Conneaut, Ashtabula Co., Ohio, an interesting account of the musical performances of an infant of that place, named Spencer L. Sage. This musical phenomenon is the son of Mr. Sage, a music teacher now living in Conneaut. The child is only three and a half years of age; and, if he lives, we may expect to see all the marvels of Mozart surpassed. Our informant says:

"Master Sage is about three and a half years old; but though so very young, he plays on the melodeon with astonishing skill. He will play two, three, and even four parts, singing at the same time, all in perfect harmony, and in good time. He now plays some fifteen or twenty tunes thus. He will play a tune on any key, or, rather, the note he happens to light upon, he takes for his key note, and plays his tune in its several parts. He will play a tune in several keys, as, for instance, one flat, two flats, and six sharps; all of which I, and scores of others, have heard him do. If he touches a wrong note, his little ear at once detects the error, which he immediately corrects. He plays, apparently, without effort, looking around the room, joining in the laugh with the visitors, who become supremely amused with his performances, and occasionally he engages in conversation with his father. All this occurs without interrupting his performance. He has gone into the street, heard the school children sing some air, and, coming in, he has gone to the melodeon, and played the tune through without hesitation, putting a bass to it that would do credit to a master in music, though he had never heard any part but the treble. People flock from all parts of the country to hear him, and all admit that he exceeds anything of the kind of which they have ever heard.

The Gibson Family recently gave a concert here, and, having read and heard of master Sage, they desired to see and hear him, and he was regarded by them as the most astonishing prodigy of which they had ever known; and they have voluntarily lent their names to us, so these singular, yet true accounts, may be credited.

All his knowledge of music is intuitive.—He has had no instruction in the science. Indeed, he is altogether too young to be benefitted by it. The first his parents knew that he possessed any ability in this respect, was about three months ago. One day, when the family were sitting in the front room, they heard some one playing Greenville, on a melodeon, that stood in another room.—Mrs. Sage, thinking it was some one of Mr. Sage's pupils, to whom he was giving instruction in music, stepped to the door to see who it was, when, to her astonishment, she discovered it was her own little son, with his head but a little more than level with the melodeon, threading his way through the tune, in two parts. From that time forward, he has been permitted to use the instrument as he pleases. He will listen to the playing of a tune two or three times by his father, and immediately stepping up to the instrument, will play it through, correctly, himself.—*Musical World.*

The Economy of Trees and Plants.

The economy of trees, plants, and vegetables, is a curious subject of inquiry, and in all of them we may trace the hand of a beneficent Creator. The same care which He has bestowed on His creatures is extended to plants. This is remarkably the case with respect to hollies: the edges of the leaves are provided with strong, sharp spines, as high up as they are within the reach of cattle; above that height the leaves are generally smooth, the protecting spines being no longer necessary. Mr. Southey has noticed this circumstance in the following pretty lines:—

"O reader! hast thou ever stood to see
The holly tree?
The eye that contemplates it well perceives
Its glossy leaves;
Order'd by an intelligence so wise
As might confound an Atheist's sophistries.

"Below a circling fence, its leaves are seen
Wrinkled and keen;
No grazing cattle through their prickly round
Can reach to wound;
But, as they grow where nothing is to fear,
Smooth and unarmed the pointless leaves appear.

I was lately shown a plant which puts out a pretty, modest flower, from the lower part of the stem. When its blossom is over, the stalk on which it grew turns down to the ground, the end penetrates the earth, and there throws out and ripens its seed-pod; but for this propensity of the plant, seeds would probably be destroyed by birds and insects. Some plants flourish in one climate, and others in another, according to the several purposes for which they were designed by a good Providence. Some which are generally useful will bear almost any temperature. This is particularly the case with grass. Nettles, I believe, are never touched by cattle of any description, neither will they trample upon them. What a secure, retreat, therefore, do they offer for birds to build their nests amongst, and for hares to deposit their young amidst the shelter they afford! The same remark applies in a great degree to furze, thistles, and the common bramble.——*Jesse's Gleanings in Natural History.*

To discover how many idle men there are in a place, all that's necessary is to set two dogs a fighting.

For Farmers.

Management of Soil.

A soil would never get exhausted, if managed with skill, but would continue to improve in depth and fertility in proportion to the industry bestowed upon it. The food of plants, it is true, may be exhausted from the soil by a repetition of cropping with any one family of plants, if we neglect the application of such fertilizers as may have been taken from the soil by that family; but no part of the growing season is required for the soil to rest, or lie fallow, if judiciously managed by a successive varying of the crops, or by supplying to them such food as may be a compensation for what has been taken off by the previous crop. The first object to be attained for securing a certain and profitable return of produce must be *the rough drainage;* the next object is, *break into the sub-soil* to the desired depth—not without first considering whether it is proper and profitable to shift or turn up the subsoil at once to the influence of the atmosphere, or whether it is best to break into it well first, by shifting the surface soil, and allowing the subsoil to remain and receive—first the beneficial influence, and then—at the trenching, a portion of the subsoil may be stirred up and mixed with the surface soil; this practice continued for every succeeding crop, will establish a healthy fertilizing surface soil to any desired depth.

If repeated stirrings of the surface are adopted according to the nature of the soil and weather, every growing crop will connue in healthy luxuriance, without suffering injury from too much moisture, drought, or frost. In addition, by constantly scarifying, hoeing and forking the surface soil, not only obnoxious insects and their larvæ are expelled, but weeds would never make their appearance, much less have a chance of committing their accustomed robbery of the soil and crops—no mean consideration, either when we observe the loss of time and produce occurring to such extent in some localities, by allowing weeds to rob and choke the growing crops, and to shed their seeds, productive of a progeny similarly injurious to the crops next in rotation.

The application of manure is most essential, and may be applied most beneficially when the soil is established in a healthy condition, and maintained thus by a constant attention to surface stirring. Yet the application of manure is a secondary consideration; for though it may be very liberally applied, and with considerable expense, without first insuring the healthiness of the soil, much property and labour will be sacrified.—*Cottage Gardner.*

Value of Clover.

I am not willing to take my leave of those kindred subjects, without paying a small tribute of respect to clover. As an improver of the soil, clover stands pre-eminent above all the other grasses cultivated in the country. So many are the useful properties of clover, and so many and so important are the uses to which it can be applied, that, unquestionably, it ought to be considered as the most valuable of our grasses.—Even herds grass, or timothy, excellent as it is, could be spared with less injury to the agriculture of the country than clover.—Admitting, what many suppose to be the fact, that clover, when used either as pasture or hay, is not so palatable to all sorts of stock as some other grasses—admitting, too, that the expense of cutting and curing it for hay is greater than that of other grasses, yet there exist many good and sufficient reasons to justify its general and extensive culture. The produce of clover is far greater than that of any other grass; and although it may not be the most palatable of all sorts of stock, yet is sufficiently so to answer all the purposes of pasture or hay. In the use of clover alone, I have scarcely had any experience; but a mixture of clover and herd grass has been found in my own husbandry to make excellent pastures, and first rate hay for stock of every description.

But it is not to the abundant produce of clover, nor to its palatable and nutritive qualities, that we are to look for its principal excellence. As an improver of the soil it stands unrivalled. Some of its peculiar excellences, by which it is distinguished from other grasses, is the following:—It receives plaster to far greater advantage than any other of the grasses; it meliorates and improves the soil in a very peculiar manner; it produces an excellent green crop to be turned under for the purposes of manure;—and it forms a peculiarly tender sward, which is of great use in agriculture. The sward of clover, or the clover lay, as it is frequently called, is in itself almost a preparation for any other crop. It needs only to be turned over to put the ground in first rate order for wheat, or anything else. I do not recollect if I saw any clover of the variety of which I speak on your farm, or on any of the farms in your vicinity, except in one instance. In neglecting to cultivate this important plant, you keep yourselves behind the time, and behind your own interests. I advise you to introduce clover into your farm with all practicable speed.—*Genesee Farmer.*

Root Crops.

Some years ago, a great deal was said in favour of raising roots for stock, and many farmers went into the business to a large extent. They did not all realize their ardent expectations, and some have abandoned raising roots altogether. Others raise them, and with a profit, as they consider.

There is no doubt but that the value of root crops has been over-estimated by some, while others consider them unprofitable without having made a fair experiment. Some farmers who are situated near a large market, prefer feeding their cows on Indian meal, shorts, and oil cake, to raising roots for them; and in such places it might be more profitable to raise vegetables for market than to raise roots for cows, while other good food for them may be conveniently obtained at a moderate price.

But in the interior, where meal, grain, oil cake, &c., are higher, we believe that many farmers will find it profitable to raise roots for stock. They are good for working cattle, growing cattle and milch cows; also for horses, sheep, and swine. With roots, young cattle may be fed on coarse fodder, and kept in a thriving condition in winter, and they will be less liable to disease than if fed on dry fodder. Working cattle will be more healthy if allowed a moderate portion of roots. Milch cows fed partially on roots will give more milk, and if the roots are of the right kind the milk will be rich, and they will be less liable to disease than when they are fed on other food. Horses are kept in better condition in winter, when fed partially on roots, instead of wholly on grain and meal, with the exception of hay. Sheep suffer much in winter from being kept so long from the ground, and meal and grain are not good substitutes for green food. Roots are better to keep them in good condition.

Animals are in the most thriving state when feeding on green herbage; and roots afford them a succulent food in winter, resembling the green food of summer, or at least it is the best substitute for it.

A great objection to raising root crops is the expense in weeding, and this applies particularly to carrots, from the large number of plants that are necessary. But this objection may be obviated, in a great measure, by beginning in season, and preparing and manuring the ground late in the fall or early in spring, and stirring it occasionally in spring, as the weeds start up, until the time of sowing, and soaking the seeds, and allowing them to remain in a moist state till almost ready to sprout, and then sow on a fine freshly stirred soil, and the plants will start before the weeds, and the weeding will cost but a trifle, compared with the old method. In this way a piece of carrots may be hoed with one-fourth the usual expense.—*New Englaud Farmer.*

How to Cook a Potato.

Wash it well, but let there be no scraping. At the thickest end cut off a piece the size of a sixpence. This is the safety valve through which the steam escapes, and all rents in the skin are thereby prevented, just as the valve prevents a rupture in the steam boiler.