friends in the village that a table was needed to complete the furniture of the study, there was a voluntary and prompt response to contribute the means to procure one. This is the first study of the first Nestorian pastor, and is likely to introduce a new and striking idea into the minds of Nestorian ecclesiastics in regard to their appropriate calling.

Scientific.

ELECTRO-MAGNETISM.

PROF. PAGE'S EXPERIMENTS.—A series of lectures have been given at the Smithsonian Institution, in Washington, by Prof. Page, of the Patent Office, in illustration of his recent experiments on Electro-Magnetism as a motive power. He states that there is no longer any doubt of the application of this power as a substitute for steam. He exhibited the most imposing experiments ever witnessed in this branch of science. An immense bar of iron, weighing one hundred and sixty pounds, was made to spring up by magnetic action, and to move rapidly up and down, dancing like a feather *in the air*, without any visible support. The force operating upon this bar he stated to average *three hundred pounds* through ten inches of its motion. He said he could raise this bar one hundred feet as readily as through ten inches, and he expected no difficulty in doing the same with a bar weighing one ton, or a hundred tons. He could make a pile driver, or a forge-hammer, with great simplicity, and could make an engine with a stroke of six, twelve, twenty, or any number of feet.

The most beautiful experiment we ever witnessed was the loud sound and brilliant flash from the galvanic spark, when produced near a certain point in his great magnet. Each snap was as loud as a pistol; and when he produced the same spark at a little distance from this point, it made no noise at all. This recent discovery he stated to have a practical bearing upon the construction of an electro-magnetic engine. Truly, a great power is here; and where is the limit to it?

He then exhibited his engine of between four and five horse power, operated by a battery contained within a space of three cubic feet. It looked very unlike a magnetic machine. It was a reciprocating engine of two feet stroke, and the whole engine and battery weighed about one ton. When the power was thrown on by the motion of a lever, the engine started off magnificently, making one hundred and fourteen strokes per minute; though, when it drove a circular saw ten inches in diameter, sawing up boards an inch and a quarter thick into laths, the engine made but about *eighty* strokes per minute. There was great anxiety on the part of the spectators to obtain specimens of these laths, to preserve as trophies of this great mechanical triumph. The force operating upon this great cylinder, throughout the whole motion of two feet, was stated to be six hundred pounds when the engine was moving very slowly; but he had not been able to ascertain what the force was when the engine was running at a working speed, though it was considerably less. The most important and interesting point, however, is the expense of the power. Professor Page stated that he had reduced the cost so far, that it was less than steam under many and most conditions, though not so low as the cheapest steam engines. With all the imperfections of the engine, the consumption of three pounds of zince per day would produce one horse power. The larger his engines, (contrary to what has been known before,) the greater the economy. Professor Page was himself surprised at the result. There were yet practical difficulties to be overcome; the battery had yet to be improved; and it remained yet to try the experiment on a grander scale, to make a power of *one hundred horse*, or more.

"Truly the age is fraught with wonders; and we can now look forward with certainty to the time when coal will be put to better uses than to burn, scald, and destroy.—*Nat. Int.*

Important Scientific Discovery.

Mr. Solomon Shutter, a highly respectable mechanic of Alleghany City, has, we understand, discovered a method of decomposing water by mechanical means, and without the use of a galvanic battery, at a merely nominal expense. He made this discovery by mere accident, in the pursuit of his business as a blacksmith, and was first made aware of the fact, by the hydrogen evolved from the water exploding, though fortunately without doing much damage.—*Pittsburg Gazette, Aug.* 13.

Improvement in Weaving.

The *Norwich* (Eng.) *Mercury* states that Mr. Richard Shaw, son of a prominent manufacturer in Norwich, has succeeded in accomplishing an invention which gives the power to weave by hand two perfect pieces of goods, however varied in color, complicated in pattern, or fine in texture, by the same throw of the shuttle, and extremely little increase of labor beyond what is required in weaving a single piece. Several attempts have, we believe, been made to accomplish the same end, and the great difficulty experienced has been to obtain the salvages of the separate pieces.

A Useful Composition.

In the Scientific Convention, at New Haven, Professor Olmstead stated that rosin added to lard gives it a degree of *fluidity* not before possessed by the lard, and also prevents the latter forming those acids which corrode metals—copper and brass, for example:—

Several important practical applications result from this property. Its use for lubricating surfaces of brass or copper has already been adverted to. It is equally applicable to surfaces of sheet-iron. I have found a very thin coating, applied with a brush, sufficient to preserve Russia-iron stoves and grates from rusting during summer, even in damp situations.

I usually add to it a portion of black lead, and this preparation, when applied with a brush in the thinnest possible film, will be found a complete protection to sheet-iron stoves and pipes. The same property renders the compound of lard and rosin a valuable ingredient in the composition of shaving soap. The quality of shaving soap is greatly improved by a larger proportion of oil than is usually employed, so as completely to saturate the alkali; but such soap easily becomes rancid when wet with water, and suffered to remain damp—as it commonly is when in use. If a certain proportion of this compound is added to common Windsor soap, (say one-half its weight,) the tendency to grow rancid is prevented.

A very soft and agreeable shaving compound, or cream, may be made by steaming in a close cup a cake of any common shaving soap, so as to reduce it to a soft consistence, and then mixing intimately with it half its weight of our resinous preparation, adding a few drops of some odoriferous substance.—The same compound forms an excellent water-proof paste for leather.

American Tea.

We noticed some months since the attempt of Mr. Junius Smith, now of South Carolina, to cultivate the tea plant in that State, and mentioned that he was greatly encouraged to hope for entire success. A correspondent of the Sun, writing from Washington, says he learns from a gentleman deeply interested in the experiment that the naturalization of the plant is eminently trumphant. He adds:—

The tea grown here turns out far more highly and delicious flavored than that imported, being in all respects like that drank by the wealthy in China. The grand difference between the American grown and the imported being the loss of flavor occasioned by the sea voyage. Latitude thirty-four north, in Alabama, Georgia, and North Carolina, proves better suited for the cultivation of the plant than any other region. Dr. Davis of South Carolina, who originated the experiment, is already realizing handsomely by the sale of his young trees, which are eagerly bought up at any price by Southern Agriculturists.

There are persons yet living who can recollect when the cotton plant was only seen in flower pots, in which it was cultivated on account of its lovely blossom; one of the prettiest flowers in the calendar of Horticulture. Observing men in the South, who know the history of the cotton-raising business of this country, are generally of opinion that tea-growing is about to become quite as important to us in even less time than it has taken us to become the great cotton producing country of the world. The character of soil and climate adapted to the growth of the tea plant are not such as to make it interfere at all with the production of cotton; tea lands and cotton lands—those which produce these plants best—being as different in all their attributes as they well can be.

A wise man is like a spring lock, always more ready to shut than to open.

One man's fault is another man's lesson.

The Farm.

IMPROVEMENTS ON THE FARM.

The latter part of August and the fore part of September may be considered the most favorable part of the year for making improvements on the farm. At this season, the earlier crops have been secured, the cultivation of the later ones has been finished, and the farmer is only waiting for their maturity. In addition to the comparative leisure which is thus afforded, there are other circumstances which render this a suitable period for such operations. The ground is generally drier than at any other time during the year, which permits the labor of men and teams on places which at other times are inaccessible from wetness. This is particularly favorable to the drainage of bogs, and to the excavation of peat or muck for manure. The growth of bushes and shrubs has also reached that crisis in which they may be more easily killed by cutting or bruising.

DESTROYING BUSHES AND WEEDS.

One of the first objects to which attention should be directed in the improvement of the farm, is the eradication of bushes and pernicious plants in fields, along lines of fences, roadsides, &c. These are not only great drawbacks on the beauty of the farm, being unsightly to the eye, and conveying an unpleasant idea of careless and slovenly habits; but they are very detrimental to the pecuniary interests of the farmer. They draw nourishment from the ground which should go to the support of valuable plants, and by propagating themselves, are constantly increasing and spreading the injury. Thistles, docks, briers and thorns are often allowed to flourish unmolested in the situations mentioned. On the borders of fields they occupy the richest of the soil, and annually extend their encroachments. They are not unfrequently seen in good lands, that are devoted to various crops, and in pastures are quite common—many farmers being apparently regardless of their presence and effects. The great extent of ground that is occupied by these worthless pests, is a dead loss; but besides this, grass and other crops are robbed of moisture by them during the drought, and at other times are soured and diminished in growth by their shade and roots.

WASTE LANDS.

The reclamation of waste lands, generally, but especially those of a wet and swampy nature, may be prosecuted with advantage at this season. With these drainage is the first object. The water which appears in the form of springs should be cut off by deep channels along their sources, and these channels should convey the water to such points as will best insure its discharge from the land. As the water is taken away, the soil will settle, more or less, and this settling will facilitate further operatioas in several ways. The solidity acquired will admit of taking on teams for getting out stones, stumps and bushes, and all such objects are left by the settling of the earth, mostly on the surface, from which they may be readily removed.

SWAMP HOLES.

The "swamp holes," which, like plague spots, disfigure the surface of farms, forming the breeding places of worthless plants and disgusting reptiles, and filling the atmosphere with seeds of human disease, may often be brought into most profitable cultivation.—They frequently comprise the richest parts of the farm, as is proved by the large crops they produce, when redeemed from the effects of stagnant water and wild plants. They are particularly natural to grass, and when properly prepared by drainage, the wild growth exterminated, and the surface properly smoothed, may be brought into valuable meadows by sowing the grass seed about the first of September. Timothy, and the large red-top are the best grasses for such situations; a peck of the seed of the former, with a half a bushel to a bushel of the latter (according to its cleanness,) is the proper quantity for an an acre. It may be scratched in with rakes, or by a bush harrow.

REMOVING ROCKS.

Digging rocks (boulders) from grounds encumbered by them, may now be done advantageously. Stone walls are generally the best and most economical fences in such situations They have the important recommendation, that when once made in a proper manner, they are perpetual. A trench, two feet deep and somewhat wider than the base of the wall, should be dug for the foundation, which should be filled with the smaller stones that are not suitable for the wall. A skilful and practical wall-layer, will know how to select and place the stones so as to make the most substantial and permanent fence.

Boulders that are not wanted for walls, may be sunk by digging holes under or beside them, so deep that they may fall below the depth to which the plough reaches. Those who have adopted this mode of disposing of boulders, state that it is much less expensive than it is to get them out by blasting with powder, employing men and teams to take them away.

IMPROVEMENTS PAY.

It is an erroneous idea, though entertained by many farmers, that improvements will not pay. We believe this is, in many instances, urged merely as an excuse for carelessness and negligence. It is a safe maxim that what is worth doing, is worth doing well. We could refer to hundreds of instances where such improvements as we have spoken of have been made, with greater profit on the money so expended, than is realized in the ordinary routine of farming. The lands operated on are frequently of little or no value; but an outlay of fifteen to twenty-five dollars, are made to pay an annual interest of from fifty to one hundred, and sometimes two hundred dollars an acre.—*Cultivator.*

Care of Young Trees.

Trees that have been set this fall should be protected in some way against the winter winds. When the ground is frozen hard they will stand firm, but before that they need a prop, and in spring they will need the same.

As it is not prudent to keep straw or litter about the trunks through the winter, and as stakes prove injurious by fretting and lacerating the bark, to say nothing of the cost of procuring them; we advise you to support them through the winter by a bank of earth, in case the soil is already rich enough, and if it is not, then by a wheelbarrow full of manure that is not so strawy as to invite the mice to make nests. The manure that is made at the sink drain—suds, ashes, and such matter intermixed, is better in such cases than any.

Peat muck is excellent to be intermixed, for it keeps the earth more moist through the succeeding summer than any kind of highland earth; and this muck should be used on setting the trees, but it should be dug long before it is used that it may become fine and mingle readily with the other soil.

On setting young trees a cavity is often left about the trunk where water stands and freezes. This is injurious to all kinds of trees, and should never be permitted. Earth or manure should always be piled around young trees in the fall, if for nothing else but to prevent the accumulation of ice around the roots.

Cattle must not be permitted to approach a young tree. They never trim well, and have no right to meddle with orchards. Hogs are better stock to take care of trees; and even hogs must be watched.

Now is a good time to dig muck to be used next spring where trees are to be set—and now is a leisure time when almost every farmer can procure this material to be used on any of his lands next season—now is not too late if the ground is not too wet.—*Ploughman.*

Fattening Cattle.

In stall feeding, cattle should not be exposed to alternations of hunger and surfeit. Like human beings, they are fond of variety, and capricious in their appetites. Two pounds of oil-cake, five pounds of barley meal, and five pounds of hay chaff, with a plentiful allowance of Swedish turnips, has been recommended as a daily allowance. The use of linseed oil in feeding, has been attended with much success. "The oil is sprinkled on good oat straw, layer after layer, at the rate of a gallon of oil to a week's allowance of straw. The straw to be frequently turned over, and kept two days before used; by which time the oil will be absorbed, and there will be a slight fermentation in the food." Following is the mode of making Warne's Compound, highly esteemed for fattening cattle. "Put 166 lbs. water into a boiling cauldron, and when boiling, stir into it for five minutes, 21 lbs. linseed meal. Then 63 lbs. of crushed barley is sprinkled upon the boiling mucilage, by one person, while another rapidly stirs the mixture. This occupies another five minutes."

It is then left to cool; if there is much fire it should be put out. It should be used the next day, or by being excluded from the air, may be kept longer. The quantity given to each bullock per day is eight pounds, with hay or straw in addition.—*New England Farmer.*