years in destroying their Spanish persecutors. It has been ascertained by dissection that this poison operates by means of the nervous system, producing immediate convulsions and exquisite torments, as soon as it is introduced into the stomach. In some instances it has been used in the executions of criminals, in which cases death invariably ensued within five to ten minutes after imbibing it. The fatal principle appears to exist in certain gases which are dissipated by heat. This is conclusively proved, from the harmlessness and highly nutritious properties of the farina, when the process of manufacture has been completed.

It has been stated on good authority, that a single acre of land planted with the mandioca root, will afford nourishment to more persons than six acres of wheat planted in the same manner, and my own observation fully justifies this assertion. Concerning the value of the plant, Southey remarks with truth, that "If Ceres deserved a place in the mythology of Greece, far more might the deification of that person have been expected who instructed his fellows in the use of mandioca."—*Paraon the Amazon.*

Siberian Crabs for Hedges.—I saw not long ago a line of hedge which was made by planting the seeds of the Siberian Crab—a small ornamental variety of the apple, which is well known in the nurseries, and sought after for its little fruit. The tree, naturally, is a small one, and has not exactly thorns, but branches which become somewhat thorny and resisting. It naturally forms a thicket with a good many branches, so that it takes and keeps the hedge form very easily. He sowed the seeds of these crabs in the garden and when the seedlings were a year old he transplanted them into the row where they were to grow as a hedge. They were set six inches apart, in a single row, and the tops were cut off within three or four inches of the ground the same spring they were planted. This made the hedge bushy and thick at the bottom.

The hedge is now five years planted. It has attained its proper size, and having been regularly trimmed every spring, has become one of the thickest and the most impenetrable hedges I have ever seen. It requires trimming but once a year, and seems to me well able to take care of itself the rest of the time. Besides this, it has a fine appearance in the spring, when it is covered with blossoms, and in the autumn, as it begins to bear considerable fruit. Would not the Siberian Crab, or its seedlings, make a good farm fence?—*Horticulturist.*

Canada Balsam.—This Balsam, which is very useful to farmers and mechanics, and principally known as an ingredient in varnishes, may be had from the druggists. It is the pure, unadulterated sap, or turpentine of the American Pine, and is the only remedy for wounds within reach of the backwoodsmen of Canada. It is also used by the Laplanders and other northern nations. See that the wound be perfectly free from splinters, gravel, and all other irritating substances. If a cut, bring the edges of the wound together, pour some of the balsam upon a bit of lint or linen rag folded, and lay it on the injured part. Bind it up, and on no account disturb it unless it becomes painful, thereby indicating that the balsam does not agree with it. If it gets ruffed or loose, it may be necessary to apply a fresh dressing of balsam, but it generally adheres firmly, keeps the wound cool, and does its work of healing steadily, coming away when its part is done, and the flesh sound. The balsam has also been successfully applied to inveterate sores after blisters, or where the skin has been otherwise frayed

For animals, simply apply the balsam either with or without rag or lint, according to the part injured. It will harden of itself, and form a sufficient protection against the air and the flies.

Family Economist.

The Boundary Line of Knowledge.—We cannot artificially produce the organic acids from their elements. We are still ignorant how they are formed in plants and animals. All that is known on this point concerning the vegetable acids is, that they are formed from carbonic acid and water, the two chief sources of the nourishment of vegetables. But by what power, and in what manner, these two bodies are forced to combine in the grape-vine to form tartaric acid, in the fruit of the lemon tree to form citric acid, in apples to form malic acid, &c. we are entirely ignorant. We here stand as it were on the boundary line of our knowledge. Whether it will be permitted to us at some future period to advance beyond this limit, further investigations must show. In the meantime we must assume that the unknown power which causes the shoots, leaves, and blossoms to put forth from the seeds—we call it vital power—is also able to produce chemical combinations and decompositions more powerful and manifold than it is possible for the chemist to accomplish in his retorts and crucibles. In this sense we regard the organic acids, as in general all organic substances, as the chemical productions of the vital activity of plants and animals. —*Stockhardt's Experimental Chemistry.*

How to Admonish.—We must consult the gentlest manner and softest seasons of address; our advice must not fall like a violent storm, bearing down and making those to droop whom it is meant to cherish and refresh. It must descend as the dew upon the tender herb, or like melting flakes of snow; the softer it falls, the longer it dwells upon, and the deeper it sinks into the mind. If there are few who have the humility to receive advice as they ought, it is often because there are as few who have the discretion to convey it in a proper vehicle, and to qualify the harshness and bitterness of reproof, against which corrupt nature is apt to revolt, by an artful mixture of sweetening and agreeable ingredients. To probe the wound to the bottom, with all the boldness and resolution of a good spiritual surgeon, and yet with all the delicacy and tenderness of a friend, requires a very dexterous and masterly hand. An affable deportment, and a complacency of behaviour, will disarm the most obstinate. Whereas, if instead of pointing out their mistakes, we break out into unseemly sallies of passion, we cease to have any influence.

Friar Bacon's Prophecy.—"Bridges," says he, "unsupported by arches, can be made to span the foaming current; man shall descend to the bottom of the ocean, safely breathing, and treading with firm step on the golden sands never brightened by the light of day. Call but the secret powers of Sol and Luna into action and behold a single steersman, sitting at the helm, guiding the vessel which divides the waves with greater rapidity than if she had been filled with a crew of mariners toiling at their oars. And the loaded chariot, no longer encumbered with the panting steeds, darts on its course with relentless force and rapidity. Let the pure and simple elements do thy labor; bind the eternal elements, and yoke them to the same plough." Here, says a writer in *Blackwood's Magazine*, is poetry and philosophy wound together, making a wondrous chain of prophecy.