they should know when calumba root is good, and when it might reasonably be rejected. Further, it has been thought not a too stringent regulation that compound tincture of cardamoms should be distinguished from sal volatile, and that the proportion of the active ingredients existing in more powerful remedies should be remembered. Seven plants have to be recognised, all specified beforehand, being the amount of botany required, and the assistant should be able to determine whether specimens submitted are such as he would choose to vend in an establishment of his own. What less could he be asked to know? With how much less would he feel comfortable himself? We implore those interested to take the matter into their earnest consideration; at least let them shake off for once and for ever the shadow of that unwholesome fear of an examination which might paralyse their exertions.

Here we must pause while an episode of argument is presented. There are men amongst us (long may they remain) who have borne the full heat and burden of their day. Popularly they are described as the founders of our Society. Whether so or not is matter of no moment. Early in life they accepted pharmacy as a vocation; they struggled hard during many an unprofitable season to scrape together a decent business. That unremitting care, assiduous application, and never-wearying exertion should be finally rewarded, is but an illustration of the eternal law, that whatsoever a man soweth he shall reap.

They have succeeded,—have made money, and transmitted to their descendants the heritage of a name as well as solid pecuniary advantages. Shall we say they were subjected to no examination; why should we? No; for these men are, of all others, the most eager that their sons should accept the better and larger facilities of the age in which we live; the first to rejoice over and to advance the cause of classical and pharmaceutical education; the first to feel grateful that their children are spared the drudgery, loss, and social degradation which their fathers not unfrequently were forced to undergo; the last to entertain any sympathy with scarcely-fledged apprentices, who would rather indolently sink into a duck pond than manfully prepare for the duties that lie before them.

Respecting these, by far the most numerous class of applicants for information, we scarcely know what to say. At the commencement of a new phase in the career of Pharmacy not one word of discouragement shall escape our lips. These young gentlemen being occasionally of the advanced age of twenty-one, having served a few year's apprenticeship, less or more, and in some cases having been assistants for two years at most, tremble with anxiety to ascertain whether the provisions of the Amended Act will wink at such a want of qualification, and permit them to remain incompetent for life. We can imagine no greater mistaken kindness than the slightest effort made in this direction, and no conduct more suicidal. The pharmacist of to-day cannot rest the druggist of fifty years ago. All classes are influenced by the progress of the age; the world imperatively demands more than ever it did before from those who, in the battle of life are compelled to fight for their daily bread. Pharmacy forms no exception to the rule.

Often in these pages has study been recommended on its own account, and for the sake of those intellectual pleasures which alone it can bestow. A few days hence this and other aspects of student-work will probably be introduced by one who is singularly competent for the task. It remains our duty distinctly and unhesitatingly to allude to trade considerations; let these young inquirers rest thoroughly persuaded that just in proportion to their individual attainments in those branches of science, by the knowledge of which they will have to gain a livelihood will be in the usual order of God's providence their chance of ultimate success. This positive and personal acquirement (of which no man and no circumstances can deprive them afterwards) utilised and directly made to bear on daily business, constitutes the secret of modern enterprise. Others (marvellously few) a century ago hit on the same plan and kept it dark; now, every year adds to the number of those who are sharp enough for their own interests to follow the example.

The future Pharmacist must be prepared to run the race, or without the slightest figurative allusion, there will be no crown for him. May we invite them, such as have not entered the lists already, to avail themselves of the advantages offered by this Society? nowhere will they find means more directly adapted to the end in view; we have occasionally thought they were neglected because too cheap. A fair acquaintance with the three great branches of instruction given is indispensable, unless the druggist be content to be outstripped by others; laboratory manipulation, analysis, whether applied to commercial or scientific purposes, is of a practical importance which cannot be estimated.

Let our young friends think the question over solely, just this moment, from the view-point of personal advantage, and trade gain. Once more rises the spectre of three examintions—they form three tests by which the student may ascertain how he stands. Let him not include this dread amongst his other anxieties,—surely we have laid the ghost.—*Pharmaceutical Journal (Eng.)*

Manufacture of Sulphite of Magnesia.

Since the publication of the latest edition of the Dispensatory of the United States, several new chemical compounds have been introduced to the notice of pharmaceutists and those of the medical profession, and some of these have already come into extensive use. Among others we may mention the *sulphite of magnesia*, of which we have already been several times requested to give a description and the formula for its preparation. Sulphurous acid with magnesia forms two compounds, the mono-sulphite (MgO, SO^2+3 or $6\ HO, =79$ or 106), and the acid sulphite ($MgO, 2\ SO^2, =68$). The latter is not used in medicine; it is an efflorescent salt of an acid taste, soluble in twenty times its weight of cold water and about five or six parts of boiling water. The mono-sulphite, which is the salt alluded to above, is white, easily decomposed by exposure to the air, not readily soluble in water, and, when dissolved, again precipitated by the addition of alcohol. It is soluble in sulphurous acid, with which it forms the acid sulphite. It is decomposed by acetic, tartaric, oxalic and most of the mineral acids.

We know of only three formulæ for preparing it, two from the German, and one by an American, Mr. Joseph P. Remington.

The first consists simply in passing sulphurous acid in its gaseous state through water containing carbonate of magnesia in suspension; but it is said that the salt so produced is not so white as that obtained by the other process. Besides this, we conceive that there would be great danger of producing a mixture of the mono-sulphite and the bi-sulphite, from the necessarily varying proportions of sulphurous acid gas introduced.

The second process is to dissolve 136 parts of the crystalized sulphite of soda ($NaO, SO_2, +8\ HO$), made free from the carbonate and sulphate of soda in a little less than its own weight of boiling water, and while still hot, to filter the solution into a solution of 123 parts of common sulphate of magnesia, or epsom salts, (MgO, SO_3+HO), in about one-half its weight of hot water, and to stir the mixture until cold. A quantity of fine white crystals will be formed, which should be left to drain upon a filter, and then pressed between the folds of bibulous paper and dried at a moderate heat. When the above quantities of sulphite of soda and sulphate of magnesia are used, the resulting product of sulphite of magnesia will be about sixty-nine parts.

The process of Mr. Remington is somewhat different from either of these. He takes eight ounces of pure calcined magnesia and sixteen ounces of distilled water, with which he forms a paste, and then adds aqueous sulphurous acid of the United States Pharmacopœia, sp. g 1.035, stirring the mixture to favor reaction. When acid has been added in quantity sufficient to show a slight excess, the crystals which have formed are left to subside, the clear liquid is decanted, and the sulphite of magnesia, after being sufficiently drained, is dried on bibulous paper. The product is about one and a half pounds. He suggests that the washing can be accomplished most effectually, and with the use of the least water, by allowing the crystals of sulphite to collect in a stratum on the bottom of the strainer, and adding just enough distilled water to cover the surface; any sulphate of magnesia is dissolved, and this, together with the yellow mother water, is displaced by clean water, and the salt is left white. By this process sulphite of magnesia may be obtained as pure and white as by double decomposition, with economy in time and labor, the yellow color disappearing by simply washing, with very little loss of the salt, as it is not easily soluble in cold water.

From the ready decomposition of this new preparation we presume that it is intended to take the place of other and more nauseous mixtures containing sulphur and magnesia. We have as yet seen no definite statement of its effects on the animal economy.—*Journal of Applied Chemistry.*

Pepper.—Both the ripe and immature berries of black pepper yield the alkaloid *piperina*, which when acted on by alkalies is converted into a volatile *piperidina*. Wertheim has shown that the latter substance is produced in large quantity and to better advantage by distilling at once an alcoholic fluid extract of pepper with caustic alkali.—*Chem. Centralbl.*, 1863, p. 561.