

yet scarcely manage their own affairs with success.

If their own special business goes wrong—if their gardens and farms are neglected; if their crops are bad, and if things in general are not exactly what they wish,—they blame the Government, and look to the next elections as a remedy for everything. The real error in these men is this: that they expect far too much from Government and far too little from themselves. Now, without wishing to give any one the slightest offence, it does appear as if some of us held similar sentiments, if we look from a Pharmaceutical point of view. Are we not all, at times, too apt to expect too much from societies and organizations? There is no doubt that they have their special purposes to fulfil, and advantages to confer; but it is necessary for every individual member of any society to exercise common-sense views about organizations. It does not follow, that because we unite ourselves to any body of men, the sin ple fact of being in connection with them makes us better men. It does not follow that mere union of any kind will at once, as if by some magical influence, improve our returns and fill our coffers with gold. Golden dreams of this sort may pervade some minds; but such utopian ideas are not in harmony with the practical notions of the present day.

It must be very disheartening to young Pharmaceutical students to be told that after all their studies and anxieties, they are simply rendering themselves more unfit to fill situations. Such a doctrine as this must be an error. As a general rule, it is rather the intelligent and well-disciplined student who is ultimately the most successful in the battle of life. His studies expand his mind in every direction. If he be a good student, his training will have developed the habits of carefulness, perseverance, thoughtfulness, and unflinching industry. Was Scheele a worse business man because he was such an industrious student? Was Stephenson a worse workman because he spent so much of his time in trying to unravel the mysteries of science? Or was Franklin a worse tradesman because he discovered that thunder and lightning were only the terrible phenomena of electricity; and who, when engaged in scientific pursuit, still had the good sense and humility to wheel his own goods in a barrow through the streets of Philadelphia to his own shop? "Knowledge is power," not only in the higher walks of life, but even to the humblest tradesman; and the greater the knowledge, the greater the power. Young students, take courage and work hard, for intelligent men must of necessity receive the greatest preference in the future. Let self-independence and improvement be your thorough determination.

At the same time, to lessen the force of objections, always strive to combine with the highest scientific attainments good business and moral habits. An eminent statesman has remarked, that we ask the opinions of intellectual men, but we follow the advice of men of character.

An idea prevails that a member of the Pharmaceutical Society gets nothing but the *Journal* for his guinea; suppose this to be true, the *Journal* itself is worth the money to any man who has a taste for his business. The highest idea connected with the subject, however, is that the founders of the Society had loftier motives than self-

aggrandizement. Their motive was how they could cure permanent advantage to those who were to follow them; and although many of us may feel to a certain extent isolated from the more immediate advantages which are enjoyed by those in London, yet we are just receiving as much pleasure and profit as it is possible under the circumstances to obtain from any institution of a like kind. If the *Journal* be not worth a guinea, it is a satisfaction and honor to feel that the few shillings thus spent can uphold such a noble institution as exists at present in London for the education of young chemists. It ought to be the ambition of every young man now entering the trade to try and prepare himself for examination, even for his own satisfaction, if nothing else. The opinions of both friends and foes to the Pharmaceutical Society culminate in the fact that there must be education, and an examination test for the future; and whatever means of training of a similar kind which may spring up, none can arise that will be able to show in its founders, greater sympathy, disinterestedness, benevolence, and desire to benefit the young men in the trade. Young men who enter the business now should ponder well before taking the steps, and instead of trying to evade the necessary studies, they should lay themselves out to master the various branches required, and they would never have cause to regret the ordeal. Where self-dependence, energy, industry, and indomitable perseverance are the guiding principles of any young man, he will seldom have occasion (unless under very peculiar circumstances) to retreat. At the same time, it should always be borne in mind that any man can do far more for himself than any society or master can do for him. It is not to be wished that combinations of men are to be undervalued; but there is a great difference between undervaluing and overvaluing them. It is pleasant for brethren to unite for the common welfare of each other, and for the protection of each other's interests; and it was this very principle which actuated the founders of the Pharmaceutical Society.

To organize, therefore, and to train the mind to the highest pitch is not only right, but it is our duty, for the sake of others as well as ourselves; but, after all, there is a sort of moral culture required to teach the proper use of organizations and intellectual attainments. This moral culture would develop all the qualities of the man; so that he would never consider himself as above his work. To be a first-class worker is the highest achievement, and to be a first-class worker requires the highest mental and moral culture; and nothing short of this will give public satisfaction. Men so trained would be above advancing their business by fibbing advertisements of cures for every disease, "Indian Brandee" dodges, etc., etc. The chemists of the future are expected to be men in every respect,—men who shall conduct their business on sound and right principles, and who will in a special manner throw character into all they do.

Chemical manufacturing, though quite in its infancy on the Pacific coast, is already entered upon by competing firms which display considerable energy within the limited field open to them by the demands of the market.

On the Extraction of Oil by means of Sulphide of Carbon.

BY M. HEYL.

A new and interesting process for the extraction of oil by means of sulphide of carbon is carried out on a large scale at the manufactory of M. E. O. Hoyl, at Moabit, near Berlin.

With respect to this method, the annals of Prussian agriculture contain details which we now transcribe. An oil of sufficiently good quality for successful employment in the lubrication of machinery, is manufactured at Moabit at the daily rate of 2,570 kilogrammes; its residue forming an excellent food for cattle. When more or less finely ground, the latter may be sent off in sacks, and requires no pulverization before being mixed with hard or soft water, but may be given to the animals at once, thus having an advantage over oil-cake. The oleaginous grain, such as colza, linseed, or mustard, arrives in ships by the Spree, and is raised into the warehouse by a perpetual screw, which every day draws up into the manufactory the necessary quantity for the work (about 33 hectolitres). It is then placed by a lift upon a sieve comprising a winnower, and thence falls, perfectly clean, into a triturator, the movements of whose cylinders are combined in such a way as to tear rather than bruise it.

After this preparation the grain passes into a revolving cylinder of sheet iron, about 0.418 m. in the diameter, and heated from below, whence it falls after desiccation into eight large vats, each holding 8.78 hectolitres and capable of revolving on two horizontal axes.

After having carefully closed the vats with covers, the sulphide of carbon is conducted into them from a higher reservoir; about 7,000 kilos. being required for the daily manufacture, of which, however, only 28 kilos. are lost, that is to say about 4 per cent. From the bottom of the vat, the solution of oil in the sulphide of carbon trickles out in a thread-like manner, and becomes clearer, until at last the sulphide runs quite pure. This indicates the precise moment when the seed is completely deprived of oil, and steam is then substituted for the sulphide, of which it entirely removes all traces.

The vats are now uncovered and reversed in order to eject the exhausted matter, which is taken up by the lifts and passed successively through three mill-hoppers heated by steam; lastly it is again ground, when it forms an alimentary powder, containing 5.3 per cent. of nitrogen, and saleable at 15.15 francs the hundred kilos. The mixture of oil and sulphide of carbon extracted from the vat washings is purified with steam, distilled twice, and cooled in three large worms and passed through refrigerators. It is then rectified, which renders it capable of employment in new operations, after being restored to the original reservoir. The trade price of sulphide of carbon is from 0.79 fr. to 0.85 fr. the kilogramme, but costs the manufactory of Moabit rather less as it is made on the premises. The oil thus obtained is sold as lamp oil after being deprived of colour; and by submitting it to a chemical process, a superior oil for purposes of lubrication is produced, possessing the advantage of being and remaining extremely fluid. Another oil is also manufactured, specially adapted to the lubrication of railway-carriage axles, inspis-