

THE CHEMIST;

OR,

REPORTER OF CHEMICAL DISCOVERIES AND
IMPROVEMENTS,

AND

PROTECTOR OF THE RIGHTS OF THE CHEMIST
AND CHEMICAL MANUFACTURER.

EDITED BY

CHARLES AND JOHN WATT.

VOL. IV.

VOL. I. NEW SERIES.

LONDON:

ALEXANDER WATT, 310, STRAND.

1843.

fellow, who has managed, by dint of saving, to subscribe his fee—and remind one of the laughable witticisms of Punch. Thus, you will observe, "JUVENIS" asks how pil. galban. co., can be kept soft? Now, mark the working of a mighty genius in replying. By making it in small quantities, and frequently"—so Punch says, the way to kill bugs is—to catch them. Perhaps it did not strike the worthy editor, that the young man was seeking information, or he would have advised the softening of the mass by heating the mortar, and the addition of a small quantity of rectified spirit.

Again, "A.B." who has just joined the Society, wishes for the first six numbers of the *Transactions*, at a reduced rate, and is impudently told he may "have them gratis, by paying his subscription for the year 1841." A country associate desires the insertion of the questions proposed at the Examination at Bloomsbury Square—alas! alas!—the country associate is doomed to meet with what might have been expected. Did he think that the Examiners would exhibit their scientific attainments in a tabular form, to the gaze of the Society at large?—Verily not; he may depend on one thing, however, that a moderate knowledge of Chemistry, Botany, &c., will be more than enough to terrify the Examiners themselves—(providing they are selected from the Council,) who occasionally analyse by conception (see page 442, bottom lines), thinking it is this or that, colored by some other uncertainty.

You may insert the above in your Journal if you think fit, and allow me to remain,

Your most obedient Servant,
M.P.S.G.B. *pro tem.*

ON THE USE OF MALT LIQUORS.

To the Editors of The Chemist.

GENTLEMEN,—

I am again drawn from my peaceful retirement to advocate the moderate use of malt liquors as drinks; and allow me to commence the few observations that I have to make by stating that I am indeed happy to learn that your correspondent is a *laughing* philosopher.

After the remarks made by yourselves, I shall not venture to hurl back any odium "VIRTUS" may have attempted to cast on me; but, perhaps, I may be permitted to say that the letter to which I am now called upon to reply, is very unlike his former one, and that it contains at any rate an attempt at argument; whereas the other contained nothing but bare assertions; but that these arguments are not based on so firm a foundation as your correspondent would

have us believe, it will be my endeavor to prove, then leaving the matter in the hands of your readers to judge between us. To this end it is necessary that I should commence by quoting a portion of his second paragraph. He says—"The composition of alcohol shows it at once to be incapable of supplying the animal economy with any particle of nourishment, since it is incontrovertibly proved that animals can derive no support if kept upon substances destitute of nitrogen." To a certain extent this is true; but whoever proposed that men should live on alcohol? Of how many ailments do we partake which not only resemble alcohol in the deficiency of nitrogen, but are closely allied to it in the proportion of carbon, oxygen, and hydrogen, which they contain. I allude to feculent substances, sugar, *cum multis aliis*: all the arguments (if the term may be applied to them), your correspondent has made use of against fermented liquors, apply with equal force to them; and who has found that such substances are, as your correspondent would lead us to imagine, hurtful articles of food? Behold the stout, sturdy-built follower of the plough, with his handful of fat bacon, in which no lean can be seen save by the use of the oxyhydrogen microscope! Does he prove that substances destitute of nitrogen exhaust the system? Let it not for a moment be imagined that I am unaware of the importance of nitrogen in the animal economy—this fact is established beyond the possibility of doubt.

It must be borne in mind that I am not advocating the use of *ardent spirits* but of malt liquors; and from numerous analyses of them which I have performed, I know that they contain not only the nutritive extractive matters of malt, and the fine tonic bitter from the hops, but also salts in a state highly favorable to assimilation, namely, in solution; among not the least important of these I may name the bone-phosphate of lime.

In the same paragraph from which I have already quoted, "VIRTUS" says—"alcohol is a stimulant, and surely little need be said of it here." Now in my humble opinion it is *here* that its stimulant effects should be considered. It certainly is amusing to see with what ease and carelessness your correspondent dismisses this, the main part of the subject. To attempt to put down the use of fermented liquors by chemical arguments must be in vain, because the same arguments would apply, with equal force, to other articles of diet recommended by the first physicians of the day, both at home and on the Continent, as well as by the first nations of the earth, from an experience of

centuries. The question, therefore, resolves itself into this; are stimulants in every quantity and under all circumstances injurious? Allow me to dwell, for a moment, on this part of the subject. Common consent, I confess, goes a great way with me. About nine men in ten, perhaps ninety-nine in a hundred, either at or after dinner, partake of some beverage containing alcohol: this is a curious fact, and ought not to be overlooked in a discussion of this kind. It would appear that man, in his civilised state, at that meal requires some stimulant, something capable of adding energy to the vital power, and of stimulating the organs of digestion to action. We should bear in mind, in considering this subject, that his food is not only of a somewhat different kind from that which Nature, with her own hand, originally supplied him, but that it is very differently cured and cooked; and that other additions are made which render stimulants, in moderate quantities, not only harmless but necessary. When we consider that the inhabitants of almost every nation on the face of the globe consume coffee, or some substance containing a similar active principle, and then refer to Liebig's views on this subject, I think that we shall confess that general consent is some ground of argument, and that coffee, in the state in which we employ it, is not a natural beverage.

In support of what I have stated, I will quote the following from Dr. Pereira's excellent work on Food and Diet. On page 415, he says:—"Considered dietetically, beer possesses a three-fold property;—it quenches thirst; it stimulates, cheers, and if taken in sufficient quantity, intoxicates; and, lastly, it nourishes or strengthens. Its power of appeasing thirst depends on the aqueous ingredient which it contains, assisted somewhat by its acidulous constituent. Its stimulating, cheering, or intoxicating power is derived either wholly or principally from the alcohol which it contains. Lastly, its nutritive or strengthening quality is derived from the sugar, dextrine, and other substances contained in the extract. Moreover, the bitter principle of hops confers on beer tonic properties.

"From these combined qualities beer proves a refreshing and salubrious drink (always presuming that it is used in moderation), and an agreeable and valuable stimulus and support to those who have to undergo much bodily fatigue. When Dr. Franklin asserted that a penny loaf and a pint of water, yielded more nourishment than a pint of beer, it is obvious that he regarded beer merely as a nutriment, and overlooked its stimulating and cheering

qualities, of which bread and water are totally devoid.

"It is a popular notion, which has, perhaps, some foundation in fact, that beer has a tendency to promote corpulency. This cannot be the effect of the alcohol which it contains, since it is well known that confirmed spirit-drinkers are usually slender or even emaciated.

"Considered dietetically, beer differs from wine in containing less alcohol, but more nutritive matter; and, in addition, a bitter tonic extractive derived from the hops.

"The practice of taking a moderate quantity of mild malt liquor, of sound quality, at dinner, is, in general, not only unobjectionable, but beneficial. It is especially suited for those who lead an active life, and are engaged in laborious pursuits. For the sedentary and inactive it is less fitted. In the convalescence after lingering diseases, it often proves a most valuable restorative; but in delicate conditions of the stomach, and in relaxation of the bowels, its use should be prohibited. With bilious and dyspeptic individuals it frequently disagrees, and by such, therefore, should be avoided. In plethoric constitutions, especially when there is a tendency to apoplexy, it is objectionable. In some persons it is apt to produce headache, and by such it should be either used sparingly, or totally abstained from.

"There are considerable differences in the dietetical properties of different kinds of malt liquors, to which it is necessary to make allusion.

"Ale is prepared with pale malt, and on this account is much lighter colored than porter and stout. The strongest kinds of ale are richer in alcohol, sugar and gum, than any other kinds of malt liquor; but though they thus contain a larger amount of nutritive matter, they are not fitted for ordinary use, on account of their intoxicating and stupifying qualities, and are especially to be avoided in diabetic and dyspeptic cases. On some persons they act as purgatives. The pale ale, prepared for the India market, and, therefore, commonly known as the India pale ale, is free from these objections. It is carefully fermented, so as to be devoid of all sweetness, or, in other words, to be dry; and it contains double the usual quantity of hops: it forms, therefore a most valuable restorative beverage for invalids and convalescents. It is taken with benefit by many persons on whom other kinds of ale act injuriously. For ordinary use at table, the weaker kinds of ale, popularly known as table ale, are to be preferred."

I fear, Gentlemen, that I should exhaust the patience of you and your readers, or I would have extracted a few more passages referring to this subject from Dr. Pereira's very valuable work, and which paragraphs entirely concur in all that I have at this time and heretofore stated; but I recommend your correspondent to refer to the work for himself, and I would impress upon his mind, as well as upon the minds of your readers generally, the fact, that I do not advocate the use of *ardent spirits*, but only the *moderate use* of wine and beer, and those of the best quality, and taken within the hours of 12 at noon and 9 o'clock P.M.; and never when the stomach is empty, as in that case there would doubtless be local chemical action on the coats of the stomach, the unfortunate consequences of which I have frequently observed.

Your correspondent has placed me in rather an awkward position, and would almost make it appear that he stands forth the unflinching champion of virtue, and I of vice; for, says he, "I shall never cease to vindicate the claims of total abstinence principles; principles which my opponent admires in theory, but which he has neither the virtue nor moral courage to defend." What I *admire* in theory is, the plan of a man denying himself the most minute portion of anything, under the feeling that, if he takes any, he cannot be satisfied with a moderate portion, but would make a beast of himself, and take more than prudence and decency direct;—such a man should be a member of a total abstinence society.

The man to be held up as an example to his race, is the one who can use things for the purpose for which they were sent, not abuse them, nor on the other hand be carried away by wild freaks or fanaticism, and deny himself the moderate and proper use of things, because some men cannot keep within the bounds of decency, and be guided by common sense.

As regards the want of virtue with which your correspondent charges me, I may state that I am no professor of virtue, and doubtless were I "weighed in the scale" with "VIRTUTAS," "I should be found wanting." In conclusion I may state, that when I read your correspondent's last letter, I was so much surprised at the difference between it and the former one, that I was almost led to imagine that he had procured the aid of some scientific friend in the composition of the latter.

Hoping that you will excuse the length of this epistle,

I remain, Gentlemen,
Your obedient Servant,
MEDICUS.

ON A PREPARATION SOLD UNDER THE NAME OF SUBNITRATE OF MERCURY, AND EMPLOYED FOR THE PURPOSE OF MAKING THE UNG. HYD. NIT.

BY MR. A. J. COOLEY.

A PREPARATION of mercury, under the form of a yellow powder, having for some time been extensively employed in the manufacture of the above ointment, I was induced a short time since to procure a few samples for examination. The bottles were severally labelled as follows:—

"*Hydrarg. Subnitratis.*"

Two scruples of the Subnitrate of Mercury mixed with one ounce of simple Cerate makes the Ung. Hydrarg. Nitrat. of the LONDON PHARMACOPŒIA."

Upon perusing the label on the first bottle I examined, I naturally concluded, that a mistake had been made, either by the vender or the printer, as to the quantity of powder to be used, to each ounce of "simple cerate," for the formation of this (novel) Ung. Hyd. Nit., but in this particular I was deceived, for on looking further, I found the whole of the directions precisely the same; in fact, excepting the difference between the names and residences of the manufacturers, the labels were, *verbatim et literatim*, copies of each other.

Now, without any lengthy attempt to show the fraud which is thus committed on the purchaser, and the injury the patient may sustain, by the employment of an ointment so made, let us at once turn to the *London Pharmacopœia*, that facts may speak for themselves:—

1 oz. of quicksilver is there directed to be dissolved in 11 fluid drachms of acid. nitric. (sp. g. 1.500), and the solution to be mixed with—

4 oz. of olive oil, and	} 10 oz. of fatty matter.
6 do. lard	

Now it will be found, that as the equivalent of mercury is 202, whilst that of nitric acid of specific gravity 1.500, containing, according to Phillips, 25 per cent. of water, or according to Ure, only 20.3, will be either 72.15, or 67.65, as we view it either as a bihydrated or sesquihydrated compound; it is therefore quite *evident*, that a super-salt with a large excess of acid, and not a subnitrate, is produced. The consequence of the mixture of this solution (still hot as directed by the College,) with the melted fat and oil, is the development of violent chemical action, which on subsiding, leaves a beautiful gold-colored ointment, possessing an odor and transparency, which may in vain be attempted to be imitated by the admixture of any colored pigment.