

I append the following results of experiments recently made, and communicated to me by Mr. Ransome:—

Compared with Portland and Caen, a bar of the concrete stone, the section being 4 inches square, and length 8 inches between the supports, sustained 2,122 lbs. suspended midway between the supports; while Portland and Caen broke at 750 and 780 lbs.

The adhesion of the stone is shown by weight suspended from a piece prepared to express a sectional area of 5½". Caen stone separated at 768; Bath at 796; Portland at 1,104; Elland Edge at 1,874; and Ransome 1,980 lbs.

A cube of 4" sustains 30 tons.

BEER VERSUS COFFEE.

The following letter to the *Medical Times and Gazette*, is from the pen of Dr. R. Druitt, Medical Officer of Health to St. George, Hanover Square:—

SIR,—Nothing in my opinion would do more to elevate the working classes of this country than the greater use of coffee as a stimulant. I say as a stimulant, because people in general have no correct idea of using it in that form simply. They mix it with various ingredients of a heavy cloying character, such as chicory, brown sugar and hot milk, which make it more or less nutritious, but heavy and unwholesome to the full stomach, and which mask its pure and beneficial action on the brain.

If coffee is to be used to satisfy hunger, or as part of a meal at which hunger may legitimately be appeased, of course it should be treated in an appropriate way. For this purpose it may, if the drinker likes, be mixed with chicory, dandelion, brown sugar, burnt sugar, "finings," and the other adulterating articles, and above all, it should be mixed with abundance of hot milk. This constitutes part of a refreshing and substantial meal—a proceeding intended to appease natural bodily hunger; and along with the coffee and milk, bread butter, meat, bacon, eggs, and similar articles of nourishment are most appropriate.

But people want refreshment at times which shall not be of this solid filling description. There is what the poet calls, in the old song,

"Drink to me only with thine eyes,
The thirst that from the soul doth spring."

Man is a social animal, and requires not merely food which shall enable his bodily machine to go through its daily amount of toil, but a kind of sustenance which shall cheer the mind, promote the flow of talk, make him fit for good fellowship, dissipate care and its attendant selfishness (for a man who is brooding over his own troubles is, *ipso facto*, selfish), and excite feelings of benevolence. In fact he wants *stimulants*.

It is no use to argue as some people do, that man "ought not to want stimulants," just as they say too, that he ought not to want music, fine clothes, and the like. To the man of sense the two facts suffice, that man is led by instinct to seek them, and that Providence in its bounty has furnished them. We may as well preach to the wind as say that stimulants ought not to exist, or shall not be used.

Then the question comes, What stimulant? And at present the working man has only three to

choose from—spirits, beer and tobacco. These he can get in abundance anywhere, and often of good quality; they serve the purpose desired, but, unhappily, are attended with the most terrible dangers in the temptation to abuse.

Tea is accompanied with disadvantages if used as a pure stimulant. But this I will not enter upon now. But to coffee there is no objection. It is aromatic, warming, and exhilarating, sets the brain at work, inspires social and vivacious ideas, and fulfils all the conditions requisite for a stimulant for men who have had food enough, and want to enjoy themselves as rational and social beings.

But how should it be taken as a stimulant? Why, certainly hot, strong, clear, with a little pure white sugar. In this state it stimulates stomach and brain, and adds not a feather's weight to the labour of digestion. With coffee like this working men would find their supper digest, and their talk genial and fluent, and would be disposed to enjoy their book, music or any other rational amusement.

On the other hand, unfortunately, most people know coffee only as a weak, lukewarm, opaque, heavy mess, cloying to the stomach, and damping the nervous energy.

You may see people, even after good dinners at good houses, *horribile dictu*, after soup, fish, solid entrees, roti, fowl, jellies, sweets, cheese, ices, dessert, and half-a-dozen kinds of wine, commit a last outrage upon their unfortunate stomachs by gulping down a mess of lukewarm coffee and milk. What such people are thinking of at the time, or what their dreams at night, or why those stomachs do not burst, it were vain to enquire. What is wanted after a good luxurious dinner is the little cup of coffee, hot, strong, and clear as a fillip—not the nutritious mess that would do for a school-boy's breakfast. But, in this as in most other things, fashion, or supposed fashion (for it is not real; real taste demands the *café noir*, with its *chasse or gloria*) overrides common sense.

Still more is the mistake made of supposing that working men can find in the thick, unstimulating mess presented to them as coffee at common coffee-houses, railway refreshment-rooms, and the like, anything to counterbalance their love of or need for beer, spirits, and tobacco. A man whose stomach is full already does not heed hot stuff like soup, but the clear, bright, aromatic, nerve-compelling stimulant.

Some time ago, I entered a coffee-room, which is an appurtenance, and a most rational one, to a "mission-house," established for the purpose of improving the morals and manners of the labouring class in this parish. There was a comfortable room, newspapers, some religious placards, rather too glaringly displayed on the walls, and everything well meant. I sat down and ordered a penny cup of coffee, after some interesting talk with the superintendant on the means of promoting the welfare of the working classes, and weaning them from the public-house. But when my coffee came in all my spirits fled at the sight of it. Not poor Mr. Pallett, in "Perigrine Pickle," could have felt greater horror at the sight of the *sillakickaby* which was offered him at the "feast after the manner of the ancients." I tasted a little drop,