

nearly asphyxiated from this very cause, and it was the merest chance that the danger was discovered before it had got too late. All, excepting one had already begun the fatal slumber, and, fortunately, she had the sense to give the alarm. We have wandered from our starting-point, but our subject is like a diamond, studded with facets, each one more interesting than the rest, and it is difficult to avoid digressions as we look at them. Besides, the danger just mentioned is by no means too widely known, and is, therefore, fittingly referred to here.

In the case of luminants, however, there is no chance of their misbehaving in this manner. Those that yield their light by burning are too amply surrounded by air to think of monogamy, and, therefore, the atoms of carbon go on in their conventional way of taking two wives or two husbands each, as the reader may elect to decide. But what such luminants, nevertheless, are doing the whole time they are alight is to deoxygenise very considerable quantities of air, and thus render them unfitted for man's use, while the carbonic acid gas they manufacture fouls the remainder, that they do not so rob of its essential ingredient. Dr. Adolph Wolpert has written a very comprehensive work upon the subjects we have been considering, entitled, "Theorie u. Praxis der Heizung und Ventilation." Unfortunately no English version of this important treasure exists, for though crammed with valuable data and profusely illustrated both with wood-cuts and anecdote, it is written in homely language, which the least learned can comprehend. In this work, he gives a list of the various forms of luminant in use, and tells us that their effect is as follows:—

Class of burner.	Candle power.	Cubic feet of CO ₂ given off per hour.	Ditto per c. p.
Petroleum (flat flame) ...	10	2.006	0.2006
" (round flame) ...	7.6	2.175	0.2862
Oil lamp ...	about 4	1.102	0.2855
Candle ...	1	0.399	0.3990
Coal gas ...	16	4.640	0.2900

According to this list the least deleterious luminant is the flat flame petroleum lamp, and the worst offender the common candle. In our second paper on this subject we found that 1,000 cubic feet of fresh air was needed to render the effect of one cubic foot of carbonic acid gas harmless, so that even the 10 c.p. flat flame petroleum lamp requires about 2,000 cubic feet. of fresh air per hour to counteract its effects.

The position of the light is also not unimportant. In the article just referred to, it was shown that every burner set up a circulation of the air in a room

from itself up to the ceiling and down the walls to the level of its intake of air and *not lower*. If, therefore, it is fixed well above the level of the human nostril, it is far less harmful than when set upon the table as is so often the case with lamps and candles. Such a light as the "Wenham" (though an extravagant gas consumer), and in large buildings the "Sunburner" are thoroughly sanitary from our point of view, for in both cases their products of combustion are at once removed by a ventilating flue. The most hygienic of all is undoubtedly the incandescent electric light, for it fouls not an atom of air. Whether really beneficial for the sight we must leave to the decision of competent oculists, but the fact of its not encroaching upon our stores of oxygen or deluging us with foul, poisonous gases must always command it a very high place in our favour.

There exist in light active forces, of which at present we possess but little knowledge, but of which we see the effects almost daily. Leave a plant to grow in a cellar, or even in a room that is badly lighted, and its leaves will become bereft of colour; certain dank growths, such as mushrooms and fungi of all kinds, seem to owe their unwholesome appearance largely to their leaning towards spots where light is absent, and that the human body is not insensible to these mysterious influences has in recent times been triumphantly proved by the marvellous cure of lupus, &c., through their intelligent application.

Hence, not only the artificial lighting of our dwellings, but also the liberal admission of God's glorious day and sunlight to our rooms must have an important bearing upon our subject. The country labourer, who rises with the lark and spends all his time in a bath of sunshine, to retire to his rest at dusk, may possibly owe something of his ruddy, healthy look, which the town-dweller unceasingly envies, not only to the fact that he is incessantly quaffing great draughts of the best of air, but to the circumstance as well that he is also enjoying a chronic light bath. It is our duty to see to it that we do likewise. It is of national importance that no Briton, however humble, is permitted to exist under circumstances that infallibly make him a weakling. Our Building Acts, our Borough By-laws, should be so framed that Mr. Jerry-builder cannot force us into chests of foul air, ill-lit withal, and call them "desirable villa residences." In our factories and workrooms too, these factors of health should be more strongly insisted on. Burning lights *below the nostrils* should be absolutely unlawful. If light is necessary at such a level, let it be of a kind that cannot impair the air we breathe, electric for instance, and above all, let the needed light be that of our resplendent sun rather than any artificial substitute whatsoever.

A walk through any district that is inhabited by town workers, and a consideration of their forms and faces, will soon convince anyone possessed of

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