

The presence of sulphur compounds in gas is especially objectionable, as the product of its combustion, sulphurous acid, is dangerous in large quantities, and unpleasant and injurious in small quantities. It is particularly harmful to plants, it tarnishes gilding, and bleaches most colours. The statutory maximum of sulphur allowed is 20 grains per 100 cubic feet (though three times that quantity has been found), and it is required that no sulphuretted hydrogen be present. The last-named gas is perhaps better known by smell than by name—it is present in rotten eggs.

With regard to the illuminating power of various gases, no one is, perhaps, a greater authority at the present time than Prof. Vivian Lewes; and his paper at the Society of Arts last week was not merely of scientific interest, but of great commercial importance. He has shown that the light of a gas flame is due to the incandescence of particles of carbon, and that these particles are set free by the decomposition, at a high temperature, of a gaseous compound of hydrogen and carbon known as acetylene. This is only one of many compounds containing the same two elements, and hence called hydrocarbons; but Professor Lewes believes that all other hydrocarbons which produce a luminous flame are converted by heat to acetylene.

Comparing the illuminating power of various other hydrocarbons with that of acetylene, he finds that a consumption of five cubic feet of gas per hour gives (for different hydrocarbons) light equal to 5'2, 35'7, 56'7, 70'0, and 123'0 candles, and the same volume of acetylene gives a light equal to 240 candles.

The great importance of a cheap method of manufacturing acetylene is at once apparent, and such a method has been accidentally discovered—that is to say, it was discovered by an experimenter working with an electric furnace, by means of which he sought to produce an alloy of the metal calcium from some of its compounds. He observed that a mixture containing lime and powdered anthracite, at the temperature of the electric arc, fused into a heavy semi-metallic mass. Satisfied that it was not the substance he sought, the experimenter threw it into a bucket of water, where it caused a violent effervescence and gave off a rapid stream of gas, the vile odour of which claimed his attention, although it was not the compound he wanted.

The gas proved to be acetylene. Its objectionable odour is considered to be a blessing in disguise, and to serve the same useful purpose as does physical pain. The gas is exceedingly poisonous, so that it is a great advantage that the slightest escape should be instantly detected.

As to price, the gas is said to cost about 6s. 4½d. per 1,000 cubic feet when produced by the above method; but when we "compare the quality" (as advertisers ask us to do), we find that it is equivalent to coal gas at 6d. per 1,000 feet. It might be used alone, when, of course, a relatively small quantity would be required, or it might be used for the purpose of enriching ordinary coal gas.

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## A Book of the Week.

### "ROMAN GOSSIP."\*

Mrs. Elliot writes exceedingly entertaining and well-written gossip, about all the principal personages that she knew and met at Rome. Every one enjoys a *Cosy Corner Chat* about eminent people, and few of us are above feeling a certain curiosity about their private lives and weaknesses. It is not a very high order of historic interest that Mrs. Elliot's book will satisfy; but, at any rate, it will pass a few hours amusingly, and possibly call up to the reader's imagination a more vivid picture of recent Roman political life than many more learned and instructive records of modern Italian History.

The first chapter deals with the picturesque and patriarchal Pio Nono as the writer saw him at audiences, and as she heard him spoken and gossiped about among her personal friends and acquaintances. Most suggestive are the paragraphs dealing with the personal and private intercourse between Pio Nono and Victor Emmanuel. According to Mrs. Elliot—

"In the very act of anathematising Victor Emmanuel, Pius was such a perfect gentleman, and so naturally courteous, that even when depriving him of his kingdom, he never failed to return autograph replies to the letters he addressed to him."

The *Re Galantuomo* was known at the Vatican as the Robber-King, yet the Pope still—

"Addressed Victor Emmanuel with benignant mercy; and Victor Emmanuel on his side invariably ends all his letters by asking his blessing, the angry Pontiff responding by promising his prayers. . . . When the King lay dying at the Quirinal, in January, 1878, Pius more than once sent his own Confessor, Monsignor Marinelli, to report to him his condition, and to administer extreme unction."

Now, that kind of gossip is really interesting, and the paragraphs I have just quoted are only specimens of many other quite equally entertaining anecdotes, which, even if we accept them with a certain mental reservation as to their absolute fidelity to truth, are at any rate suggestive as to the estimation in which all these celebrated and interesting personages were held by their contemporaries living in the same town at the same time.

Reviewers, it seems to me, are a kind of critical Jack Horner, having perhaps a little more experience and opportunity of reading and judging of books than the average reading public. We put in our thumbs and pull out just one or two literary plums, and say to our readers, "look what a nice pie this is! and there are plenty more plums equally nice if you will look for them yourselves." That, it seems to me, is the function of a reviewer in a paper like this—to suggest to our readers what literary pies seem to us worth either buying or sending for from the library—and what especial features are worth noticing in those pies. With regard to the badly-baked pies, it seems to me that a critic's wisest plan is to leave them alone. There are plenty of drastic pens to deal with them in the *Saturday Review* and other papers, but our Editor can only accord us a little space to chat about books, and, therefore, I only try to suggest, each week, those publications which I think may be pleasant, and

\* *Roman Gossip.* By Frances Elliott. 6s. John Murray. 1894.

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