

THE  
ANALYTICAL SANITARY  
COMMISSION.

No. I.

ON CLARET AND BURGUNDY.

THE present is the first of a series of articles on the great and important subject of Wine. In it we intend to treat chiefly, but not exclusively, of the Red Wines of France, its Clarets and Burgundies. In other reports we propose to include the wines, both red and white, of other countries, as those of Germany, Hungary, and Greece.

The subject of wine is so extensive that it will be impossible for us in the compass of a few reports, necessarily of a limited character, to discuss it in its entirety, and in all its aspects, commercial, analytical, physiological, hygienic, and moral. We propose, however, to dwell at some length on the questions of the purity, composition, and properties of the wines to the consideration of which this report is confined.

It has been of late years very much the custom to decry and abuse the wines of Spain and Portugal, and the statement has been widely promulgated that the sherries and ports of those countries never reach Britain except in an adulterated form. On the other hand, statements nearly equally strong have been advanced as to the purity and wholesomeness of what, in contradistinction to the strong, are known as "light" wines. In a certain and restricted sense, there is no doubt much truth in the averment that the wines of Spain and Portugal are adulterated—that is to say, that they contain variable, and often considerable, quantities of added spirit. In other respects, in very many cases these wines are unexceptionable, as in regard to the quality of the grapes from which they are made, the care bestowed upon the process of their manufacture, and the richness, fulness, and delicacy of their flavour. It is no less certain that the case in behalf of the light wines has, on the whole, been overstated: they are almost invariably described as models of purity, excellence, and wholesomeness. But the fact really is that a large proportion of the wines of France, as of most other countries where wine is extensively produced, is liable to great and often complicated sophistication. We will endeavour to convey to the reader, in as few words as possible, a notion of the practices not uncommonly resorted to. Some of these may be allowable, but there are others which are wholly unjustifiable. Thus wines that are *turbid* are fined, cleansed, or clarified usually by means of a solution of isinglass, white of egg, or blood. Wines that are *over-acid*, have their acidity diminished by the addition of alkalies, as carbonate of soda; or the sourness is in part concealed by means of sugar. The *stronger* wines are often diluted with *water*. Those that are too *weak* have their strength increased by the addition of *alcohol*, which is rarely or never that obtained by the fermentation of the grape, but usually a spirit procured from grain, beet-root, or even the potato.

In those cases in which the wines are intended for consumption in this country, although they may not be too weak to keep, *spirit* is not unfrequently added, to meet, it is affirmed, the national taste, or rather failing, for strong wines.

Wines, both white and red, which are deficient in *colour*, have it increased, in the case of white wines, with an extract made from highly coloured wines or very ripe grapes, or even burnt sugar; and in that of the red wines, with either a similar extract prepared from the red grape or from elder-berry juice.

Occasionally sugar is added to the unfermented grape-juice to increase the fermentation and augment the quantity of alcohol generated.

Again, wines that are deficient in *astringency* have it increased by being mixed with a rough and strong wine, or even by the direct addition of *tannin*.

Another practice, which may be termed universal, and which prevails to a large extent in France, is the *blending* of wines. By this mixing, two different objects may be accomplished. One of these is, the correcting of certain faults which the wines may possess before the operation. Thus a weak wine may be fortified by being mixed with a stronger; and a dry, harsh wine may be softened by the addition of a rich saccharine wine. Another purpose attained by blending is the fabrication of certain descriptions of wine, without any, or with only a small proportion, of the real wine imitated being used.

Although it is not desirable to quote all the allegations advanced in books relating to the adulteration of French wine, it will be proper, in corroboration of some of the foregoing statements, to make a few extracts from certain official sources of information.

First, as to the *quality* of the wines of France, apart from adulteration—

Viscount Chelsea, in his report presented to Parliament "On the Effects of the Vine Disease," states:—"Falling off in quality and diminution of price have ensued as the natural consequence of so great an increase of production as has been described. It results from the evidence, then, that, leaving finest growths out of account, and which are confined to very small districts, the quality as respects the vine has degenerated in France; that it has lost in flavour what it has gained in fecundity; and that the adoption of the new methods of cultivation, the introduction of the commoner sorts of grape, and the abuse of manure, have caused the vine to lose its primitive superiority and distinctive qualities. Hence a diminution in price."

Again he remarks:—"After the actual wine has been drawn off, the growers of the Southern Departments make what may be called a 'second brew' only of the dregs and lees of the vintage, and this has also a certain commercial value. Lastly, a still inferior sort, called 'piquette,' is obtained, by pouring water on the lees, for local consumption. In the Eastern Departments, on the contrary, the grapes are pressed out to the last drop."

M. Lenoir, the author of one of the best works on wine, divides the wines of France, as respects quality, as follows:—"Good," comprising one-sixth of the total produce; "middling," or "passable," another sixth; "drinkable without disgust," another sixth; the remaining three-sixths comprising all the degrees between "bad" and "abominable."

Under the head of the quality of French wines we may refer to the practice of increasing the strength and other properties of wine by *congelation*. This custom prevails in Burgundy, Formerly this operation was effected in winter, but we learn from a report by Mr. Ogilvie on the Wines of France, presented to the House of Commons in 1862, that it has been found better to freeze the wine by artificial means, by putting it in large tin vessels, which are immersed in a mixture of pounded ice and salt, and the operation is carefully watched to prevent its being carried too far. The principle on which this process is based is, that water freezes more readily than spirit or wine. The water naturally contained in wine is in part frozen, and thereby separated, when it is taken out and thrown away, by which the bulk of the wine is decreased, and all its properties condensed and made more perceptible; but as the bad qualities are condensed as well as the good, this operation is only useful in very fine and faultless wines.

The same results may be obtained to some extent by placing the wine in wooden vessels, covered at the top with parchment or bladder, which allows of the escape of the water as vapour, but retains the spirit or alcohol.

Second.—With respect to *adulteration*, we meet with much valuable and interesting information scattered through the reports on the vine disease, from two of which we have already quoted.

From Mr. Lumley's report it appears "that the wine trade of France seems to have been as much indebted to Spain for its existence during the last five or six years, from 1853 to 1859, as that of Portugal on the Douro has been; and although at Bordeaux, as at Xeres, the large stock of old wine may be still unexhausted, though greatly diminished, still there is little doubt that a large quantity of the new wine, which for the last five years has been manufactured in the South of France, and which has been exported to all parts of the world as wine of the first vintages of France, was little else than Spanish wine mixed and flavoured with other substances."

The most prevalent adulteration, states Viscount Chelsea, "consists in the addition of *water*. This is chiefly done by the retail dealers. It is more considerable in populous towns, and it is practised on a large scale in Paris, where six hectolitres of

strongly coloured wine, rich in spirit, are diluted by the addition of three hectolitres of water."

With respect to the use of *spirit* Viscount Chelsea states that "the wines of the departments bordering on the coast of the Mediterranean are highly alcoholised; nevertheless they will not bear carriage to any considerable distance, either by sea or land, without undergoing the process of 'vinage,' or the addition of a quantity of spirit, ranging from one to five per cent.; in the case of most other wines this is not necessary."

"The quantity of alcohol used in manufactories is small, except in the following departments—namely, the Bouches du Rhôn., Haute Garonne, Gironde, Bas Rhin, Haut Rhin, Rhone, Seine, Seine Inférieure, and Seine-et-Oise."

In the same valuable report we meet with some further particulars relating to "vinage," or the brandying of wine. The law at the time the report was written allowed the addition of five litres of brandy to each hectolitre of wine, provided the alcoholic strength of the mixture did not exceed 21 per cent. "From experiments made with a view to prevent fraud, it has been ascertained that wines usually furnished to private consumers do not average more than 10 or 11 per cent. of alcohol; that those in the hands of the retail dealers average 16 or 17 per cent.; while those delivered to wholesale firms contain from 20 to 22 per cent. The reason of this is that the private consumer drinks his wine at once, and in its *natural* state; while, in the case of the others, the wine is destined to be mixed and otherwise modified, so that when it reaches the consumers through these channels it does not average more than 8 or 9 per cent. of spirit."

With reference to the *sweetening* of over-acid wines, the following observation occurs:—"Another and still more culpable method of adulteration—inasmuch as it is very injurious to health, and which consists in what is called "sweetening" or neutralising the acetic acid contained in them by means of plumbago and other similar ingredients—is sometimes practised."

In a note appended to the report from which we have had occasion so largely to quote, the process followed by the "Administration de l'Assistance Publique," in the "coupage" or "blending" of various qualities of wine, is given.

"A wine of Marseilles—Narbonne Roussillon,—of a dark colour and naturally warm or highly alcoholised, is mixed with a white wine of Touraine on the Cher, or with a light-red wine. The beverage resulting from this process is called "Vin de Coupage;" and, so far, is nothing but a mere mixture. But if a small quantity of grape-sugar, or about  $\frac{1}{20}$  of 'vin muet' or unfermented wine, be added, a new fermentation is produced, which renders the mixture perfectly homogeneous."

"Blending, in order to be useful, should be so effected as to produce a better quality than the two component ones. Thus old wines going off may be advantageously blended with new, dark coloured with light, wines with an excess of spirit with those that are light and will not keep long. But, in order to obtain a satisfactory result, the wines must be well adapted to each other; they must be mixed in proper proportions, and must have had time to effect their combination. This blending is quite distinct from the practice of making certain spurious and intoxicating mixtures which are sold to the lower classes of Paris."

Dr. Gaubert, in his "Etudes sur les Vins," gives some receipts for blending wines for sale in the suburbs or "banlieue" of Paris. From these it appears that a wholesale dealer can make a barrel of wine, which will pass for common Bordeaux, at 92 francs, the genuine article costing 115 francs. The retail dealer introduces it into Paris at a cost to himself of 129 francs, duty included; and, after adding one-seventh of water, clears 16 francs and 40 centimes by the sale. One example will serve to give an idea of the others, and is as follows:—

Bordeaux,	4 barrels at	120 francs.
"	5 "	110 "
Sologne,	8 "	90 "
Sannois,	4 "	70 "
Narbonne,	2 "	150 "
Water,	2 "	

The remarks of Mr. Ogilvie, from whose report we have already quoted, respecting the fortification of wine, agree for the most part with those of Viscount Chelsea, but are more precise in some respects:—"By a decree of 17th March, 1852, spirit is allowed to be added, free of excise duty, to the extent of five per cent. by volume to wines of the departments of the Eastern Pyrenees, the Ande, the Tarn, the Hérault, the Gar, and the mouths of the Rhone, provided that the strength of

the wine shall not be rendered above 18 per cent. of Gay Lussac's scale, equal to about 28 per cent. of proof spirit; but if the strength exceeds 18 per cent., and is under 21 per cent., then each degree between 18 and 21 is charged with the double duty. All such wines above 21 per cent. are subjected to duty as spirit. By the same decree, all wines for exportation may be fortified to an unlimited extent, and under this regulation most wines, and especially those of the five districts above specified, are fortified with spirit before being exported."

"In France," again writes Mr. Ogilvie, "the pressure of imperial and municipal duties on wine leads to its sophistication to a considerable extent. It is frequently mixed with spirit in the first instance, because if not exceeding the strength of 18 per cent. of Gay Lussac's scale, it is assessed with duty only as wine; and after it has passed the 'douane,' it is then mixed with water to increase its quantity; and as most of the ordinary wines do not exceed 9 or 10 per cent., two casks may be thus made out of one. The dark-coloured wines of the South are often mixed with the cheaper sorts of white wine, or with the lighter red wines of the North. These frauds on the revenue and the public are, however, confined to the lower class of dealers, and are never attempted by the proprietors or producers, or even the more respectable wholesale dealers."

The report of Mr. Ogilvie likewise contains references to two other practices not yet alluded to by us, and which must be regarded in the light of adulterations: "In the same district, Burgundy, a quantity of raw *sugar* is often mixed with the grapes at the time of pressing, the object being to give body, and to hasten the fermentation."

Again: "In the process of wine-making, *plaster of Paris* or gypsum (sulphate of lime) is often added to the grapes in the press, the effect of which is to produce a brilliant lively colour. The same substance is also added in small quantities when the wine is beginning to turn sour, as it stops the acetous fermentation."

Another adulteration of French red wines has still to be noticed—namely, their coloration with *dried elder-berries*. It appears from the report of Mr. Consul Crawford, made in the present year, that in 1866, 19,000 kilos. of dried elder-berries were imported into France.

We shall now refrain from further quotations from English official reports; but to those who desire to obtain additional information respecting the treatment and adulteration of the wines of France, we recommend the perusal of two small works by the same author, M. V. Lebeuf, "La Vigne" and "Amélioration et Fabrication des Liquides."

In these, and especially in the latter book, the author, under the title "amelioration," treats at length of the coloration, the perfuming, the fortification, the imitation, and the manufacture of wines, with and even without the aid of the grape. The author discusses these subjects in quite a scientific and even an enthusiastic manner, and does not seem to recognise the smallest harm or impropriety in any of the practices he describes and recommends. At the end of both volumes he gives a list of the oenological preparations most employed for the amelioration of wines, and he prefaces this enumeration with the following rather significant note: "These preparations are fabricated by MM. Lebeuf and Co., at Argenteuil (Seine-et-Oise). They are in dépôt at Paris for the supply of the city." We presume that it is merely a curious coincidence that the writer of the works to which we have alluded and the fabricator of the oenological preparations bear the same name.

Amongst the articles of which a list is given we enumerate the following:—

*Alcohol of raspberry.* Perfumed.

*Ambréine.* To give to new wines the yellow colour of old wines. To colour white wines, vermouth, &c., yellow.

*Essence of Pomard and Burgundy* gives wine the taste and bouquet of old wine of Burgundy.

*Disacidifier.* To destroy the acidity of new wines. To sweeten and preserve them.

*Disinfectors of casks, or powder of coopers.* To sweeten foul casks.

*Essence of cognac* communicates to beet-root and corn spirit the taste of cognac.

*Essence of Madeira, Muscat, Malaga, Alicante, Vermout, Port, Lacryma-Christi, Grenache, Sherry, Tokay.* To fabricate them with ordinary wine.

*Extract of Bordeaux, or essence of Medoc.* A flask suffices to give the bouquet of the wines of Medoc to a barrel of 230 litres.

*English powder.* To clarify old wines; to make them good, and afterwards to increase their bouquet.

*Powder of the wines of Bordeaux and of the Gironde.* To clarify the wines of Bordeaux.

*Decolorising powder.* To decolorise and clarify white and acid wines.

*Powder of white wines.* To clarify and preserve them.

*Powder graduated.* For the clarification and improvement of wines.

*Powder Lebeuf.* To clarify and improve red wines, white wines, spirits, &c.

*Rancio.* A flask suffices to age a hectolitre of new brandy, of wine, or of marc, and to destroy the earthy taste.

*Rancio of wines.* Giving to all wines the *recherché* taste of old wines.

*Essence of Beaune.* To give to wines the taste and the bouquet of wines of the region of Beaune.

*Essence of Chablis, Essence of Champagne, Essence of Hermitage, Essence of Medoc.*

*Essence of the South,* or of the wines of Montagne.

*Essence of old white wines* gives to ordinary white wines the bouquet and the taste of fine and old wines.

*Essence of Sillery* gives to white wines the taste of champagne. Indispensable for the fabrication of sparkling wines.

*Syrup of raisin.*

*Syrup of raisin tannified.* For the fermentation of white wines.

*Bordeaux colour.* To colour and preserve wines.

*Vegetable colour, unalterable and inoffensive.* To colour, to cleanse, and to preserve wines.

*The ager of wines.*

The above highly instructive quotations are amply sufficient to prove that it is hardly correct, in animadverting upon the wines of Spain and Portugal as adulterated, to hold up the light wines of France as models of excellence and purity. There are still wines to be obtained from Spain and Portugal, albeit fortified, which for bouquet and flavour are not to be surpassed, as there are also wines procurable from France of undoubted purity and wholesomeness; the truth, we believe, in this, as in so many other cases, lies in the mean.

In the next portion of this Report we shall proceed to state the results of the elaborate analyses we have instituted of a variety of Clarets and Burgundies, as also of certain other wines more or less resembling the red wines of France.

## LONDON HOSPITAL GRIEVANCES.

*To the Editor of THE LANCET.*

SIR,—According to poor Artemus, "every man has his fort;" so I suppose argumentation is Mr. Rivington's stronghold.

By an elaborate process of reasoning, he arrives at this most logical conclusion: either he is not "an honest man and true," or, being such, his colleagues must be the opposite.

If he suppose the former, then I grieve to think he has so bad an opinion of himself; an opinion I am happily unable to endorse. If the latter, let me remind him, that those who differ from "an honest man and true" are not necessarily dishonest; they may be simply mistaken.

Hair-splitting is an unprofitable amusement, so I will now reply at once, with your permission, to his query, "Can we not unite our forces and pull in the same direction?"

The Students' Committee have already met to consider Mr. Rivington's conciliatory appeal, and I am enabled to express our willingness to go over and pull as hard as Mr. Rivington pleases, if the Council will grant us the following concessions.

In the first place, we think it incumbent on the Council to send Mr. Ley a letter expressive of their regret for the "irregularity" which occurred with respect to him. The late resolution of the Council, coming with a bad grace three weeks after the event, and after publicity had been given to the subject, is hardly a compensation to Mr. Ley for the injury and disgrace he has suffered.

In the capacity of private gentlemen, we are positive every member of the Council would make such an *amende honorable* to anyone they had unwittingly offended. Can they do less in their public capacity?

Secondly. We consider that Mr. Macarthy should be declared ineligible for any future appointment, as hitherto we have not received any such guarantee. The Council must be aware that should he succeed to another office, the present ill-feeling and agitation must again arise.

Thirdly. We also think the recent rule, declaring those to be full students who enter in their second year, should be cancelled. The whole hospital career of a man, as a student, is only thirty months; to allow anyone, therefore, to spend twelve months (or two-fifths of his time) elsewhere, is manifestly unjust to those who enter for the full term. Having had "but three intruders in fifteen years," this can hardly be asking too great a sacrifice on the part of the Council. To us, it will be the means of closing a loophole for any further encroachments, and moreover it will uphold the principle that every hospital should support none other than its own men.

The in-door dresserships, we think, might fairly be left open to all comers, as the office is only of weekly tenure, and hence an intrusion or two could be productive of but little harm.

Fourthly. We are of opinion that sufficient publicity should be given to all vacancies and appointments. All appointments to be held for a definite period, and a reappointment not to be allowed if an eligible candidate be in the field.

Before concluding, I have to correct a misconception of Mr. Rivington's. The Council is certainly legally responsible for the acts of its individual members, and it is its moral duty to repudiate any act of any one of its members, which is not founded on reason or justice. In conclusion, allow me, Sir, in the name of the students of the London Hospital (both past and present), to tender you our warmest thanks for the opportunity you have afforded us of ventilating our grievances, and seeking the support of public opinion.

I remain, Sir, yours faithfully,

5, Broad-street-buildings, E.C.,  
August 19th, 1867.

N. HECKFORD.

*To the Editor of THE LANCET.*

SIR,—My name has been alluded to for the last few weeks in your columns in a manner that would make it appear that I am one of those disappointed candidates for a prize who, thinking talent had passed unrecognised, was retaliating by casting ungenerous aspersions on the examiners. Now, under these circumstances, I feel called upon to explain my position, and to state my complaints, not to impugn the integrity of the staff, which, after I have agreed to abide by their decision, would on my part be ungentlemanly, contemptible, and unfair. The following are circumstances connected with this examination which I think all must acknowledge to show at least gross negligence and mismanagement:—

1st. A delay of some months before any notice was put up declaring the result.

2nd. When this notice appeared it did not contain particulars of the number of marks obtained by the candidate in each subject, as is customary.

3rd. The examination being conducted by a brother, which must render all protection against favouritism, by the attachment of a motto to the paper, "invalid."

Respecting the question on the larynx, although one on which Mr. Stephen Mackenzie would be likely to be well up, still, as we had had it given us in our course, I could not object to it. Mr. Heckford this week says I told him "that I had a considerable majority of marks in my favour before Dr. Morell Mackenzie gave his decision." The remarks I made were as follows, and only connected with the physiological papers:—"That in Dr. Hughlings Jackson's paper I had a considerable majority—this information I received from the examiner himself—whilst Dr. Mackenzie had given his brother a majority of one mark. I gained this from my opponent, Mr. Stephen Mackenzie. I also mentioned the fact that, had it not been for Dr. Mackenzie's paper, I should have obtained first place in physiology; and this remark Mr. Heckford undoubtedly thought applied to the whole of the examination.

There is one more point I wish to mention, in justice to myself, namely, that I did not agitate the grievance connected with this prize. I was invited to attend a meeting, and there my case was, to my surprise, adverted to as one amongst the many causes of complaint.

It was my intention to have remained silent in these disputes, of which I regret our school is now unavoidably the subject. I am fully aware that it is neither a wise nor a pleasant action for a junior student like myself to criticise publicly the proceedings of his school; but in this instance I felt bound to say a few words in vindication of myself, and in this most unpleasant task it has been my earnest desire to be truthful without being offensive, and candid without being scurrilous.

I am, Sir, yours truly,

T. ROBINSON.

London Hospital, Aug. 19, 1867.