sulphuring. But it happens not unfrequently that it fails altogether, either from accident in the management, or a bad season ; from faults in the fruit, or fermentation carried too far, or a weak wine exhausting itself unexpectedly. In this case the remedy is to introduce sugar, not only into the casks, but into the bottles. In the first case the fermenta­tion is renewed, and the wine may thus become legitimate and good. In the other the effect is far different, and not good ; and hence it is that all the very sweet Champagne wines are bad or indifferent. These are, in fact, a mixture of wine and sugar rather than proper wine ; and in this case the effect of the sugar is not to produce a new fermen­tation, but to disengage the carbonic acid of the wine, as a salt or any other soluble substance would do by a superior affinity. To gain this end, the solid sugar is corked up in the bottle, so that the disengaged gas is retained under the pressure of the cork, ready to fly out whenever that is re­moved. Thus Champagne which has been destroyed by age, is rendered at once sweet and effervescent ; and this, however convenient a secret it may be to the possessor, is but a fraud, and a very common one.

The acidity, or the pricked taste of wines, is a fault which perhaps ought never to be corrected, as in this case the wine is generally spoiled. This nevertheless is done, and some­times to a considerable extent. Acidity arising from tar- tarous acid, or even from malic acid, if that really be the acid in wines which is not tartarous, may be a virtue and a quality, as it is very remarkably in Hock. But it is often thought otherwise, even when it is the natural property of the wine, arising from its own native acid, and after a cor­rect fermentation. In this case means are applied to remedy it as a disease in the wine. In the manufacture of Sherry, it was already remarked that lime was used to prevent it ; and this is also applied in other cases where tartar is in ex­cess, as the tartrite of lime is insoluble, and can be fined down and separated by racking. It has been the fashion to use lead, metallic lead, for this purpose; and in France it was formerly used largely in the wines consumed in Paris. It was then discovered, and the act made penal ; and if not abandoned entirely, it is less used at present everywhere. That this is a poisonous substance is too well known ; but that has been overrated in this particular case. The tar­trite of lead, like that of lime, is insoluble ; so that after the lead had done its duty, it was discharged by racking and fining. Had this not been the case, all Paris, at the time we speak of, must have been poisoned. Yet it is a sub­stance that ought not to be used, because, in an acid wine ascescent from fermentation, it might produce either white lead or subcarbonate of lead, or else sugar of lead, acetite, both of them poisons if in different degrees.

For the acidity of wine from the commencement of the acetous fermentation there is no proper remedy. It may be checked if taken in time, as it would be prevented by careful sulphuring. Here lead is highly pernicious ; and it need scarcely be said, that to add sugar of lead, as has been done from ignorance and fraud united, is to add a poison without even obtaining a remedy. Chalk and lime may be used with impunity ; yet neither can these, and far less alkalies, be used to such an extent as to cure the disease, as they unite to the other acids, and also decompose and destroy the wine. To prevent it as far as possible when commenced, a low temperature and careful exclusion from the air are necessary. But it must be remembered that air will find access, not merely through cork, but through sealing-wax, and indeed through all rosins also ; and thus there can be no complete security, the best being that of placing the bottles on their sides, so that the fluid itself becomes its own cork. The Italian practice of using oil is thus far safer, but it is balanced by various inconveniences.

Ropiness is a disease almost peculiar to the wines of Champagne, and its chemistry is very obscure. It is not a destruction of the wine, although it materially injures its flavour and other qualities. It occurs in this wine from the quantity of extractive matter which it still contains, and which is that by which the fermentation is maintained. It is conceived to arise from the action of oxygen on this substance, converting it into a matter analogous to fibrine, instead of changing the whole into vinegar. Thus it re­sembles the mucilaginous deposit of vinegar called the *mother.* In the bottles it may be often cured merely by heat, by exposure to the sun, or by immersion in hot water. When obstinate, it is remedied by uncasking and by agita­tion, by exposing the fluid to the air. It is also said to be removed by a small quantity of vegetable acid, or by sugar ; but when on a large scale, it requires the process of fining.

It is held essential by the French, who are our chief teachers in every thing that relates to wine, that a wine-cellar should not only be dry, but preserved in a very uni­form state of temperature, as near to the mean annual heat of the country as possible. We have already shewn, how­ever, when this rule may be usefully departed from, for the purpose of accelerating the ripening of wines. In the deli­cate wines of that country the rule still holds good, and very conspicuously too with regard to the wines of Bur­gundy and Champagne. It is equally true of the finer and lighter Italian wines. The wines of Spain and Portugal seem to defy every thing. It is also held by the French most essential that a cellar should not be subject to the agitation of carriages, the reason of which is plain enough ; and that it should be free of bad smells. As to moisture however we must remark, that, like heat, it seems to accele­rate the deposition and consequent ripening of Port wines. Of bottling we need say nothing ; only let it be remem­bered that corks cannot be too good, but that no precau­tion will absolutely prevent all communication through a cork, however secured and sealed.

The rules which we have thus given are all of a general nature ; but there are yet a few niceties to be explained, and an example from each of the four classes into which we divided wines will render the subject more intelligible.

The attentions required in Champagne wines are perhaps the most minute and the most complicated, and they there­fore stand most in need of being detailed. Champagne is a late country, and it frequently happens that the frosts have commenced before thc grapes are ripe. Of course it is an imperfect vintage, which limits that country to this par­ticular class of wine. A very brisk wine is not easily se­cured from grapes absolutely ripe ; and thus the half-ripened fruit of this district is brought into use. Yet the best of these wines, the finest class of Sillery, rarely seen in this country, is made from the ripened grapes ; and hence it is that the best of the Champagne wines are those which are least brisk or violent, and that great violence is a cha­racteristic of the inferior kinds.

The finest wine is produced here by a very light pressure of the grapes, in which case only the ripest give out their juice. It is held necessary to gather them when the morning dew is off, to prevent water being added to the juice. The next pressure and the least ripe grapes are reserved for the inferior classes. When the juice is poured into the vat, it remains one night only, the seeds being carefully separated. In all cases the greatest care is taken to separate damaged grapes or rotten ones ; and it is as much from this neglect as any other cause that the common Italian wines are so bad. If the Champagne is to be red, the fermentation is suffered to proceed on the husks a little longer, for the purpose of extracting the colour ; and according to the length of this process, we have the *œil de perdrix,* and the pink and red wines. But, as we remarked before, this in­jures the flavour, as all good judges of Champagne know.

When the liquor is transferred to the cask, the discharge· of yeast at the bung-hole is encouraged for ten or twelve