It certainly is not an easy task to get insight into the problems witch a good wine can confront us and the opportunities that the same glass of wine can provide us to solve other problems. We basically assume that the progress of science and the higher education of every citizen increasingly reflects a balanced healthy diet devoid of superstitions, taboos and prejudices. The average user of wines and certainly the Sommelier-Conseil wants a rational response to his questions and can increasingly understand it better. There is a need for respect for the products and the people who consume them.

It is in this aspect a perilous undertaking to find answers without going into the mist at a topic that cuts across so many specialties. We guard against making generalizations or being unintelligible, certainly to finish in incomprehension. Everything starts with a good overview of a normal functioning organism and systems employed therein. These are usually cycles, which must not be interrupted. To this end, certain balances and essential nutrients, minerals and enzymes are indispensable. When such substances are failing or destroyed, we have to deal with allergies, intoxication, weakness, illness and even death. If such defects are congenital or acquired by an individual, we will need to have regard to his diet.

To prevent that by the trees we cannot see the forest the main fundamentals are deepened in an addendum. Who wants to look deeper into this questions can find a wide range of popularizing but genteel URLs in referrals. There are also references to books and other literature, but it is out of time to search something in a library that you can find on the tablet at home. I consulted richly the Anglo-Saxon literature without hesitation because the self-control is very big and, if one is looking for good, original works are more numerous and recent and the figures are more global. Unfortunately I have neither the time nor had the opportunity to check the credentials of thousands of my sites and I self was occasionally scared to confirm nonsense by quoting it. In these cases I take the most official results and not the most quoted, of the most quoted of the most cited ...

Given the nature of the writing, it is essential to follow the layout of the dietary problems as they are ranked in the teaching of health diet. This is thus the common thread in this work but then tightly intertwined with the wine pack on this issue and its integration into the desired diets Fortunately we can reduce the problems to a few recurring systems either avoiding a allergic substance or fitting it into one of the important life cycles such as the citric acid cycle, and the build-up and combustion of glucose and fats.

The main board of the good wine is the good kitchen and a Sommelier-Conseil is deemed to know what is good food. Despite I was trained as a chef and perhaps for that very reason, I would not usually give recipes with strict details of the quantities of raw materials but only guidelines. Just as a bottle of wine those materials have certain characteristics depending on the season, the weather, the company and of course the cook who prepares them. Who wants better company can purchase the great Escoffier or a cookbook for vegans or Italian or Japanese cuisine. There are however some quantities of unprecedented resources.

Wine is composed of different chemical compounds and most of them are good for one purpose and bad for the other. We will search for the most favorable combinations and destroy the taboos. So I don't see why one cannot use wine when cooking because it contains alcohol. The alcohol evaporates. When the acids from the wine prevent the potatoes to be cooked I got a real problem.

There is a macho culture developed around wine leading to denying or exaggerating the good and bad qualities. Also the nanny state by the Government on the basis of local and personal interests is a bad thing for wine in general, certainly not for the better. The exaggerated applaud of the wines

from the Bordeaux region led first to a huge price increase, acquisition by non-European groups and ultimately to competition by the same groups for their mother.

At the Université du Vin à Suze-la-rousse one responded to my proposal asking the workpiece to be situated in the sign of the concept of health. The Mediterranean diet also spoke to them, which is not surprising given the location of the Institute. These two items were extensively discussed and processed in this light. However, dancing on a tightrope, on the one hand, not falling into a cooking or diet book and, on the other hand, the bond between dish and wine is not negligible. In both cases I had to do water in the wine during the search for the delicate interplay between the wine and the ingredients of the dishes. So I have mentioned no rigid prescriptions to write or wish to provide radical advice regarding wine choice, but I want to give the reader an insight into how a small change in the preparation or the raw materials can directly lead to other situations.

We scare not to repeat the properties of the substances and the course of the cycles each time they enter the spotlight because that way the work is more accessible and easier to consult. This, I also hope to drag the term sommelier-conseil from the quagmire for whom has no training as cook and is not a dietitian. The explanation must be complete and obvious because it is the conclusion of a training and not of a free exercise in wine tasting and fine dining. Tutorial, thinking carefully, well thought-out experiment and many trials is the fate of those who want to come a step higher on the ladder of knowledge and job. Just enjoy while we maintain our health and improve the well-being, that is the ultimate objective for ourselves and everyone we serve.

Eric Callebaut

The definition of "health" reads the World Health Organization (WHO): "Health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity." Wine is a given that engages in each of these elements.
The composition of this drink can cause physical imbalance and serious health problems such as alcoholism, allergic reactions and damage to organs. On the other hand, consumed wisely and moderately, it can help to improve blood circulation, neutralize free radicals, regulate metabolism and enhance immunity.
In the social field, the production of wine gives many people an income and a life philosophy. Fortunately, many producers realize that meet the healthy environment and a reduction of pesticide yields not only better and healthier products, but also provides a better hygiene and fewer health risks for them personally and at the same time it provides accidents in the sphere of civil liability.

Viewed sociologically in many communities the wine is a binding character between individuals. Moderate use lowers the threshold contact between people and increases the pleasure. Excess will unfortunately just cause the opposite effects. Wine is condemned in some societies as a stumbling block and a devilish drink, which gives rise to fornication, irrationality and decay. Immediately it becomes the stumbling stone that man will hinder to obtain higher spiritual knowledge and experience. Other cultures and religions give wine an important place in life as drunken run to enlightenment and symbol of empathy for bloodshed far.
Like the wine is composed of many building blocks as complex is its effect on the individual and society, depending on the culture and trepidation which is enjoyed the wine.
On the legal field the government rules the production and use of wine. The repression is not limited to the alcohol section but can also hold races with a lot of methanol production out of the vineyard. When government linearly occurs in banning breeds because of protectionist reasons they go in too far, when the identity of some products and foolish traditions is set above the safety proposes is it grossly deficient. European legislation following the unification of the agriculture can provide an escape from national politics but can also lead to a smoothing and uniformity. It continues dancing on a tightrope with a maximum regional regulation of production and a maximum contribution in terms of naming, labeling and at the other hand quality standards for Europe. This is the ideal mix.

It is waiting for the appearance of the composition of the wine on the labels. Consumers are becoming more self-confident and want to buy a product that meets their needs but also meets their physical limitations. Both the wine drinker as the honest producer can only be more aware and better at and the use become safer. In the further development of this script arguments for it will hopefully become more numerous and more apparent.

What is a diet?
A diet is not just a pretty useful nutritional advice but, according to the origin of the word a precept which should be observed by an individual to achieve a particular goal. This can be done by

• General incorporate more nutrients

• Only include certain nutrients

• General to include fewer nutrients

• Reduce Certain nutrients or completely avoided.

Since each individual is different to the diet for each person will be different, in practice, in order to achieve the best state of health and well-being. So we can only approximate in each case describe a well-defined groups, to avoid certain nutrients, and other groups who regularly need certain nutrients. Fortunately, to determine the needs of the ordinary healthy people as well, in particular as regards the winnable attitude complex foods such as wine. That is what we will try to achieve here.
A diet can be understood as a temporary solution to a problem but can also be a hint to lifelong problems out of the way and the life unnecessarily to reduce or hinder.
There are already many types of diets, including main business of wine diets. We will try to give it a place in our analysis, we will not perceive it as an argument of a food expert but as a quest from someone who cares about wine and wants to give it a place in our diet. The restaurateur, chef and sommelier are like the butcher, the baker, the pork butcher, the pastry-cook and many others directly involved in the food of many people without being dietitian. They make their decision according to their own views after a certified training like everyone else involved in the important issues of public health and safety. By drinking too much water you can die but that's no reason to restrict selling water only by the pharmacist. We will therefore first determine the composition of the wine and discuss the components. The deeper details can be found behind this discussion so that we can more easily give it an essential place. We will display the keywords in italics in the text. The description is obviously contradictory but as far as possible reflects the generally accepted contemporary scientific conception. We leave the details to the specialists and we will show with pleasure the contradiction between certain propositions.
The same system is used for most of the physical limitations, which require a special diet, the chemical reactions of substances in the body and its effects.

What is wine?

The response to the obligatory question, answered by each writing or discourse on wine, states: "Wine is fermented grape juice". Wash the regulations were that simple, it would be nice, but every administration wants to put his own stamp on this fermented beverage. He is regarded as a daily beverage, stimulant, beverage alcohol addict or wicked, symbol of Christ's blood or the blood of the earth, a great load object or product grateful to cheat the buyer. There is no possible idea whether it is applied to the wine to the extent that it provoked a schism between users and non-users and between religions with the corresponding cultures. The grapes themselves are discriminated against depending on their species and bans based on the terroir are grapes; Thus, there is discrimination on the basis of a so-called quality expected resistance, so that the fermentation of certain species of grapes will be made impossible. Thus, there is a difference between wine grapes and other grapes. The American varieties are banned as a producer of wine. The Vitis labrusca, Vitis berlandieri, Vitis Ruperstris and others are sometimes used as a rootstock because they resist the Pholyxera or grape lice, but they and their crosses with Eurasian Vitis Vitifera remain taboo. Only the Canadian Vidal, a hybrid between the American Seibel and Ugni Blanc, known Cognac, find recognition as inevitable source of Canadian icewine. American Concord, Catawba, Niagara and Delaware are called "foxy” grapes because of their typical "grapey" flavor. They are not recognized in Europe as wine grapes and their fermented juice is no wine over there. Of course one wine is not the other. Depending on the grape variety(ies), the preparation and aging gives the wine its final unique features. When we bring wine into a feeding schedule so we will have to take in account these specific characteristics. The wine must first be drinkable and shall further contain substances or lack them as sought or avoided in its final use.

Metabolism

The whole of chemical processes, which need an organism to survive is known as the metabolism. These processes serve both to ensure the build-up of the frame as to detoxify the extraneous and hazardous waste and to break down.

Anabolism and catabolism

The degradation of substances whereby energy is consumed, and including inter alia the combustion of the food components, is called catabolism. It is a form of combustion or dissimilation.

The build-up, such as the outgrowth of the frame, is called anabolism. Anabolic steroids for example, do develop the muscles. This is a form of capturing energy or assimilation. There are a number of important substances which are converted to the cycle of build-up of food into a fuel for the body and removal of the waste.

The cycle of the wine

When the wine structures are generated from water and CO2 through photosynthesis sugars are formed in the grapes. In the fermentation, the sugars are converted into alcohol and CO2. The ethanol is converted in the liver by enzymes into toxic ethanal, which is converted, in turn into ethanoic acid which is converted during combustion into carbon dioxide and water. When excessive alcohol enzyme activity stops with accumulation of acetaldehyde as a result.

The other toxins also remain continuous sitting in the liver. These also need to be broken down and removed from the body. So far, a simplified representation of a metabolic cycle in which water and carbon dioxide is built into a food product, and is reduced back to its starting materials. Fructose, a multiple sugar, is not always broken down and can give rise to allergy.

Other important substances in the metabolism are natural proteins and fats with their corresponding cycles. These substances are less common in wine but can cause problems because some may be effected during the fermentation, such as histamine, which can induce allergy.

The citric acid cycle

Yet another major cycle, the citric acid cycle, because it makes the raw materials from fats, proteins and sugars, which are necessary for the cells building. Thereby there are also produced water and carbon dioxide as waste. These builders are ATP (adenosine triphosphate), NADH (an enzyme, a phosphate that both in the structure as the degradation intervenes), and FAD (flavin adenine dinucleotide), a riboflavin (vit B2) bound to ADP (adenosine di-phosphate). There are releases of electrons whose energy is used to increase the ADP to ATP (adenosine-tri-phosphate). This is the energy pump of every living cell. Also, the B vitamins, therefore, play an important role in these cycles. We must remember here that every metabolic process happens in cycles. When defects occur in these cycles, problems may occur.

Health threats

As we were able to determine the health threats by excess or shortage of ingredients in nutrition and metabolism, we can add these substances or even neutralize them externally by changing the diet or internal metabolism influence. It is to examine what is our intention to exercise material influence in the wine or the negative factors in the body and possibly to supplement shortages in order to achieve a balanced and favorable metabolism. In other words, how can wine close the cycle? The threats to health are generally a matter of dangerous fats such as LDL cholesterol, saturated fats and hydrogenated oils. Bad fats do not exist but some are sensitive to free radicals because they oxidize and precipitate where it should not. Imbalance make fats dangerous.

Furthermore abundance of all sorts of sugars and starches, alcohols and toxins comes in the spotlight. All kinds allergic substances can also be life-threatening or at least make life unpleasant. In addition, we think of amines such as histamine and urethane and sugars such as fructose. The free radicals can damage our blood substances and nerve endings causing headache, arteriosclerosis and many other ailments arise. Immunity Diseases can be expressed in different ways and liver diseases are often a response to unilateral unhealthy food and all kinds of defects on ensemble effect, where the toxins are not eliminated. Last but not least, we must address all of fattening products and mechanisms whereby we re-think of fats and sugars but also moods and defects such as diabetic disorders, obesity and insulin resistance. All these problems are inextricably linked. In each of these areas of wine can be a positive but unfortunately also exert adverse impact, albeit often by excessive or improper use. Increasingly we will meet again at the effect of the winemaker, the terroir and the method of fermentation and aging. Matters that may be less influenced by wine use, such as infectious diseases, are beyond the scope of this study, although an increase in immunity and disinfecting effects of alcohol and vinegar have an influence.

Cholesterol

Cholesterol is a vital substance in the metabolism. There are two main forms of these fatty paste means the HDL-cholesterol, or high-Density- Lipoprotein (HDL) and the LDL cholesterol or Low-Density-Lipoprotein (LDL). The HDC is perhaps heavier but remains fairly unreactive and dissolved in the blood. The LDC is very susceptible to oxidation, in particular by free radicals, highly reactive oxidants. When LDL oxidizes it condenses on the artery walls and lures an ignition. The vessel walls grow under this precipitation to close him but thereby cause artery stenosis. It is therefore important to the amount of LDC and to limit the free radicals in the blood in order to counteract the oxidation, precipitation and overgrowth thereof.

Fatty acids, cholesterol and the French paradox

The cell walls are made up of fatty acids. It is therefore not surprising that many inflammatory and healing processes are controlled by these fatty acids. The why of the beneficial effects of wine is also a piece in the solubility of fat in alcohol and therefore we need to know how it works. Indeed, there are quite a few myths and misconceptions circulating about fats. There are saturated fatty acids and unsaturated fatty acids. The difference is in the number of hydrogen bonds that they can enter into yet.

Saturated fatty acids

When the saturated fatty acids have been fully booked all of the compounds, and thus they do not respond so to speak but they are solid at room temperature and can therefore also be more easily precipitate in the conductors with arteriosclerosis as a result. On the other hand they are very stable and ideal to store fat-soluble vitamins such as vitamin A, D and E. They are also best suited to take up these vitamins. Thus, the pro-vitamin A from roots can only be dissolved and absorbed through a tasty sauce with saturated fats. Too bad for the raw food enthusiasts. French fries fried in beef fat are much healthier than those fried in corn oil and cake and steak, baked with butter and is better than the fried-based margarine, which are carcinogenic trans fats. Saturated fats are stable and have a healthy place in the diet. Coconut oil is very stable and does not burn under normal conditions but beef fat, lard, duck fat and ghee should not much inferior provided that they contain residues of proteins.

Unsaturated fatty acids

Unsaturated fatty acids so do have free spaces in order to engage in hydrogen bonds. The polyunsaturated fatty acids are classified according to the number of free spaces as Omega3-Omega6 fatty acids and fatty acids. Both types are in game and fish but the main Omega3 fatty acids EPA and DHA in particular are found in oily fish such as herring, salmon and mackerel and sesame seeds, rapeseed and linseed, sesame oil, canola oil and flaxseed oil. The omega-6 is mainly anti-inflammatory and the omega3 neutralizes an abundance of LDL-cholesterol by undertake in so until the LDL binds with free-radical and precipitates on the vein wall, after which the plaque is overgrown with a vein constriction as a result. Again, the ratio between omega 3 and omega 6 should knock to inhibit inflammation or encourage, where appropriate and to prevent precipitation in the veins. Unfortunately, we do not eat enough oily fish and wildlife that our bodies need to create these fats ourselves and our history is based on hunting and fishing, not agriculture.

Body Fats

Our body stores so to speak all the fat in saturated form but it is also our overweight. Saturated fats are so stable that our body stores them up immediately. There is less danger in if the ratio between unsaturated and saturated fats fluctuates around the fourth but in the modern diet can go to 1/20 and that is a lot of excess saturated fats. Indeed, it is in particular the ratio between these fatty acids, which determines whether they become life threatening. A striking example is the relationship between the LDL-cholesterol and HDL-cholesterol. One can bring the HDL to LDL up or down, which is still slightly better.
Oleic acid is a monovalent unsaturated fatty acid called omega 9 and also with mainly found in olive oil. It lowers the LDL-cholesterol systematically. Hence the call to use olive oil but sparingly because olive oil is a fat! The main battle in the fat is the struggle for balance between saturated and unsaturated fatty acids on the one hand and the right balance of omega 3 / omega-6 and HDL / LDL cholesterol.

The French Paradox

As stated above, our wine contains alcohol, which can dissolve the fats so that they can be absorbed by the dietary fiber and excreted. Those who follow a meager diet of that system is not better. Who drinks a few glasses of wine (or alcohol) hit by a major time thereby lost

some fat if the meal contains enough roughage. Regular consumption of a few units of alcohol has a particularly beneficial effect, especially for whoever is not averse cheese, cream, butter, rich meals with roast greasy and heavy sauces. The finding that the rich French diet was described yet led to fewer cardiovascular problems is known as the French paradox. The solution to this puzzle lies in the daily wine consumption. The beneficial effects of wine is matched in this case by that of Cognac, Armagnac or a gin but underneath are distillates of wine.

Wine still always scores one point because the alcohol level is not excessive and is processed more easily at a meal than short drink. Beer could also help with vitamin B complex but there is the problem of the maltose, the sugar with the highest glycemic index, and thus a rise to insulin resistance, obesity, and diabetes2. However, there are many other factors that lead to, among other excessive alcohol consumption, with makes wine sometimes more dangerous than beer.

Research showed that 2 to 3 glasses of wine per day, result in 30 percent fewer cardiovascular problems. Who drinks more get 70 percent more problems due to fatty liver, cirrhosis, dementia and many social problems. The cover is therefore at 4 glasses of wine per day or an equivalent of alcohol from other beverages. The benefits of a mild alcohol intake are not, however, min

- increase of HDL in blood concentration;
- reduction of LDL concentration in blood;
- reduction in the number of blood clots;
- break down blood clots;
- the elastic holding of the blood vessels.

We should also keep it in mind wine the phenolic composition. The phenols also have a far-reaching influence and are discussed elsewhere. The red wine contains the most phenols and is more effective than white wine and beer, in that order. If we stay honest, we must admit that, for example eggplants (1000mg / kg) contain forty times as much anthocyanins than dark (23mg / l) wine, but its effect is without alcohol in ratio of less than these in wine. Grapes contain up to 700mg / kg but lose up to 96% in the fermentation and clarification. That's why we love unfiltered wine and this is not just for the taste.

Free radicals and their place in the system
Free radicals are molecules having one or more unused binding capacity and, therefore detach electrons from other compounds so that they get out of their equilibrium and remain behind damaged. The free ports are used as a fishing hook with which they can also bind to other molecules with free electrons, such as LDL, for example, so that the LDL cholesterol goes out emulsion and is deposited on the vein wall.

The cell walls are composed of unsaturated fatty acids, thus having free electrons. Free radicals bind these fatty acids, so that they become self-radicals, and the cell wall is affected. As a result, the protection of the cell nucleus falls away and following this may be affected by its own cell wall. The lysosomes, the defense barrels of the cell, break open, releasing their toxic contents in the cell. Outside the cells free radicals bind, as mentioned, with LDL cholesterol and precipitates him. They connect collagen fibers making these beams tough and stiff and the blood vessel walls with them. Most enzymes are electron exchangers and thus bind the free radicals themselves therewith the failure of the enzyme activity. Overall we

can say that free radicals destroy enzymes, precipitating LDL on the cell walls, the cellular resistance and damaging the cores. Thereby cancer, aging and cardiovascular disease occur. Free radicals are created with each conversion and combustion in which oxygen is involved and which is carried out incompletely. Thus, it is the rule that there are a lot releases, even with an optimal metabolism.

Antioxidants
The (water soluble) antioxidants often leave the body like Vitamin C from fruits and vegetables. The fat soluble elements like Vitamin E in wheat germ oil, almonds and spinach (fat soluble) Beta-carotene or pro-vitamin A in carrots, apricots and pumpkin (fat soluble) are accumulated in the body fat. Selenium from not refined products such as whole meal bread, brown rice and mushrooms do not only disappear our desire for sweet but also eliminate free radicals. Glutathione in asparagus, melon and avocado may increase the potency but reduce the free radicals.

Red wine contains many substances that bind free radicals. Tannins bind to free radicals, the acids and flavonoids (anthocyanins, flavanones and flavonols) provide electrons which neutralize the radicals.

If added, sulfite destroys the vitamins, allowing the free radicals to act again. Here we discover an important facet of the action of tannin, phenols, acids and sulfite. We suspect immediately why a fresh white wine loses power due to the added sulfites.

Alcohols

There exist various alcohols, depending on the number of carbon atoms they possess. The monovalent methanol is toxic but comes free with every natural fermentation along with it, happy predominant bivalent ethanol. The latter is drinkable although it certainly is an addictive hard drugs, which can cause a lot of damage to person and community. The less dangerous alcohols are divalent and trivalent alcohol. Ethanol C2H5 (OH) The ethanol concentration may amount to a maximum 96%. The rest is water. From 50% to ignite an ethanol-water mixture, which is used when flaming. With a warm preparations, the alcohol evaporates faster than water which leads to vapors of more than 50% alcohol, and thus also flammable. When distillation is used the low boiling temperature of alcohol to isolate him. The still volatile methanol, the head is first drained and removed because it is toxic. The heavier fractions, the tail is usually held in the distillate because of the flavor they bring. Ethanol is very hygroscopic: extracts the water to the surroundings. Even when it is drunk draws water to the body tissues, which causes dehydration and corresponding hangover. That can be remedied by rehydration, drinking water so. Coffee or cola with the diuretic drug caffeine aggravates symptoms yet. Ethanol is a solvent which is soluble both in water and in fats. This makes it quick and almost entirely absorbed through the intestines. Also along the other mucous membranes it enters the bloodstream. The hygroscopic properties make regular use of stronger drinks damage to mucous membranes of the mouth, esophagus, stomach and intestines. The consequences are not less and go from cancer of the mouth and esophagus of fatty liver and diabetes to chronic diarrhea and brain atrophy. Moderate use of smaller portions on the other hand creates a vasodilation with better blood circulation and fewer cardiovascular complaints and less cancer. It increases the levels of HDL-cholesterol and lowers blood clotting. The deterioration of the liver remains precarious given because it is responsible for the detoxification and heavily taxed by ethanol. Ethanol is converted by enzymes in the liver in the toxic ethanal which in turn is converted into ethane acid, which is converted during combustion into carbon dioxide and water. When excessive alcohol enzyme activity stops with accumulation of acetaldehyde as a result. The other toxins also remain continuous sitting in the liver. Ethanol leads to hypoglycemia especially what creates a problem for diabetics.

Fusel alcohols

Fusel alcohols are mainly alcohols having one or two carbon atoms containing fewer or more ethanol. By distilling fermented beverages we speak of the head and tail of the distillate. In the head we find the lower fusel methyl alcohol, in the tail we higher fusel oils of the 3-worthy sweet glycerol or glycerin about pentanol or amyl alcohol (4-worthy alcohol), from the fermentation of starch, and about connections thereof with methanol, which gives rise to butanol (4-worthy alcohol). The fusel alcohols and their connections offer the most flavor to the alcoholic beverages so they seduce the compilers and brewers not to remove them what is at least not a healthy decision. Glycerol fatness and sweetness can benefit, the rest is downright poisonous but enticing. The grape varieties giving rise to a higher production of those alcohols are forbidden in France and most other countries. Of course, other considerations in the assessment also play a role such as protecting the existing plantings. The positive is, in any case, that in the wine, which comes on the market, generally methyl levels remain low . Just banned breeds are: Clinton, Herbemont, Isabelle, Jaquez, Noah, Othello.

Methanol CH3OH

Is produced by the fermentation of woody substances. Not deducted grapes will produce more methanol than deducted. Super Yeasts also produce much more methanol than ordinary bread yeast and the presence of acids inhibit their production. Methanol is not so

much toxic by themselves but by the very toxic methanal which is formed in the liver, and that affects the nerves in general. The facial nerve is very sensitive and quickly destroyed.

Glycerol or glycerin C3H5 (OH) 3
The simplest trivalent alcohol is glycerol. Glycerol is non-toxic but is as real alcohol, hygroscopic and soluble in water. The taste is sweet and it is used in cough syrup, cakes and sweets. Through its fatness it increases the viscosity of the wine. Some see it by error as a part of the viscosity of the tears. These are caused by the mixture of water and alcohol. The alcohol evaporates from the thin layer of liquid riding up over the glass by adhesion. The tears are formed from the remaining fluids. The higher the alcohol content, the higher the evaporation and the specific weight of the layer of residual moisture, which increases rapidly and dropwise flows down. Mixed with nitric acid and sulfuric acid the glycerol turns not only into the explosive nitroglycerin, but also into a turbo pill for heart patients.

Butanol C4H10O
Butane Compounds resulting from the alcoholic fermentation of the amino acids leucine and isoleucine. They are malodorous and toxic or very toxic. They cause a rule rapidly headache and other inconveniences to the so-called hangover.

Conclusion
Alcoholic beverages are an addictive drug with ethanol playing the leading role. The sweet, fatty glycerin can be tolerated in a drink but all other alcohols we are better lost than rich. Drinks that are rapidly fermented in a must which is low in acidity and with lots of woody components is often overloaded with methanol and other fusel alcohols. The infamous alcohols distilled from the dregs of wine, thank them their doubtful quality, and should be so distillated more than once. The healthiest wines concerning alcohol will therefore be leak wines. The more the wine is squeezed, the more impurities in it, the more it ends up with the consequent fusel alcohols. All wines including macerated fusel alcohols will inevitably produce some character and color, but also instils stubbornness. The fermentation proceeds best slowly because it involves less fusel alcohols be created. The choice of the yeast and the temperature is thus extremely important.

Health-promoting factors
As a rule, we find little or no elements in the wine, which are not beneficial to the health if the wine is used in moderation. Even alcohol can do wonders if there is no abuse. We will therefore its beneficial effects even though they repeat described elsewhere in whole or in part.

Foods high in antioxidants (vw14)

Cabbages

Usually, the broccoli is staged as superstar for the antioxidants, but the white cabbage, especially then in the form of sauerkraut, is a vitamin bomb. Also, the other types of cabbage, especially the maligned Brussels sprouts, contain both vitamin C and folic acid, and a lot of magnesium and calcium. The preparations are very diverse and range from steaming for broccoli, fermentation for white cabbage and to simmer for sprouts. Obviously totally different wines are fitting with those meals. Broccoli with white meat or lasagna with salmon match to Chardonnay and even a Blanc de blanc. Sauerkraut with annex supreme tastes best with a powerful Riesling from Alsace. Braised Brussels sprouts with game terrine and celery puree with morels likes to accompany a pinot noir from Burgundy.

Citrus
The vitamin C is known as a direct antioxidant. Vitamin C (50mg / 100g) gives the citrus the status of antioxidant. Few know that the white layer underneath the yellow skin is full of B vitamins, particularly folic acid 20 mg / kg. On the other hand the yellow layer is full of essential oils destroying nearly everything what they cover. However it is widely used as a seasoning in many dishes as a gesture of lemon and orange. How a glass of red wine may compensate this error will be seen after this.

A lack of active folic acid (vitamin B11) leads to anemia and fatigue. In case of pregnancy, it increases the risk of Down's syndrome by a factor of 2.5. The main defect activating folic acid is a deficiency of the essential vitamin B12, present only in animal feed and produced a bit by intestinal flora. The precursor (glycoprotein) of this vitamin is being created in the stomach and is allowing the production in the intestines. Deficiency causes anemia, the so-called pernicious anemia. (Vw15) Wine provides an increased secretion of glycoprotein which gives a better absorption of vitamin B12. Thereby wine can indirectly address itself to the pernicious anemia. When the intestine is affected by the Crohn's disease, there are deficits in the line of B12 and folic acid because they have less be included. In Crohn's disease, there is no indication against drinking one to two units of wine per day to increase the production of glycoproteins. More than two units contain sometimes too much alcohol and cause diarrhea, which aggravates matters. (Vw16)

Genus Solanum

As food plants we can divide the Solanums in three groups:

- those with edible fruits like peppers, tomatoes, eggplants and peppers

These are the fruits with the greatest amount of antioxidants. Besides the aubergines (up to 1000mg / 100g) we can enjoy these fruits well as reduction. Especially the peppers are different so to speak not enjoyable and certainly not the pits. As with real pepper the woody seeds are very sharp and can be masked by fat in cooking. With use of wine or stronger beverages these fat is solved by the alcohol and the seeds are unpalatable. Therefore it is recommended to crush all kinds of pepper finely in a mortar in order to be better distributed in the diet.

- those with edible stems but poisonous fruits

the potatoes belong to this group, but are not exceptional as an antioxidant since they must be boiled for a long time and so to speak, inter alia, all the vitamin C thus disappears. The potatoes are also toxic when exposed to light and become green. They then produce atropine. Potatoes are best not prepared with red wine because the acids in the wine prevent that the cell walls, which consist of fatty acids, break. They are undercooked, even with lemon or any acid. The only way to yarn with the wine is wine vegetables first neutralizing the acids with baking powder or sodium bicarbonate. Never add bicarbonate to the end of cooking because all vegetables fall into porridge. This science will be used to keep the vegetables crackly by pickling it. They are then, along with wine or vinegar added when the meat is dry stewed and must be extinguished (mouillé). The stick coating is released, the meat gets late marinade and onions and other vegetables remain intact. With salsify can, but not so with potatoes!

- those who are totally toxic

All the Solanums produce atropine when and where there is chlorophyll activity. Green tomatoes and peppers constitute an exception but are difficult to digest.

Grapes

Especially the phenols and acids make of the grapes an antioxidant. In the preparation of the wine phenols get much lost by oxidation. At microbullage they go all the fog.

Fatty fish

The omega 3 fatty acids play here the main role. Oily fish is often imposed on vinegar and naturally fits dry white wine like Sauvignon Blanc best at ESCAVECHE. Also at fish in sour jelly, white is the best choice. In the dark oily fish such as tuna, mackerel and herring, however, also red, dry wine can be drunk such as a young Pinot Noir or Beaujolais Brouilly with class and plenty fraicheur. The wines will be best served a few degrees cooler than usual to emphasize the freshness. Already on arrival in Sicily and what is now the French coast the Vikings have put their salted herring in red wine and their descendants at the Paris fish markets ate this food for breakfast with whole grain bread until the French Revolution. Following the execution of Marie Antoinette, white bread and Viennoiseries like croissants made to the highest good. In Scandinavia herring is still served as breakfast in red wine. In the Netherlands and Flanders, the wine became vinegar, however good wine vinegar ...

Soy products

Soy contains a lot of unsaturated fatty acids but also lecithin. This emulsifier facilitates neutralizing the free radicals.

Tofu

Most soy products can be compared to dairy and white meat but are more neutral of taste with a slight vegetarian test. It is therefore advisable to use a sauce of tofu with Sauvignon Blanc. Where tofu replaces chicken or calf ragout, we will grab a Chardonnay for the sauce. As a guide to light dishes with Provençal sauce, a Cote de Provence fits. If Thai food gets hotter we can go back to Riesling or soften the fire with a Californian Zinfandel or his Italian ancestor, the Primitivo from Apulia.

For the preparation of tofu, I would like to refer to dry white and red wine to prepare a wine sauce with finely chopped shallot and a herbal bulb (bouquet garni). From there, one can build on a delicious mustard sauce, tomato sauce, mushroom sauce or other of your choice.

Tea

Green tea loses much of its antioxidants when fermented and roasted. Extracts of tea or other herbs in wine are possible.

Yogurt

The yogurt is formed by bacterial fermentation of milk. In addition, the milk sugar is converted into lactic acid. The main characteristic of milk sugar is the reactivity, at the very least. Three quarters of humanity is therefore allergic to unfermented milk. Unlike other cheese-forming bacteria, little histamine is formed here.

In Northern Europe, lactose intolerance is rare in 2 to 10% of the population and is rejected as a taste preference, in Central Europe it accounts for about 15 to 20%, around the Mediterranean sea already 25%, in Africa 65% and in East -Assia about 90% of the population! A giant grid problem!

Whoever has the intolerance and scares of fresh cheese can make a pannacotta with yogurt, cream and gelatin leaves. As an attachment we do not use too many Williams pears , poached in Jurançon with cinnamon, star anise, sugar and half a lemon juice (to keep the pears cool). One dump of Poire Williams can raise the taste.

After cooling in the fridge, decorate the pannacotta with the pears and a few pieces of strawberry and mint leaves. A cool Jurançon is beautiful and adds all its fresh acids to the battle with the sweet pannacotta. Whoever wants to go wild can add a nut of Poire Williams from the freezer.

Bitters

Bitters in wines can enter into three ways: during exuberant pressing from the grains of the grape or stalks, during a too long pulp fermentation and during malolactic fermentation. Bitters may also occur during normal fermentation.

Like most bitters, the real bitters of the wine, the acrolein, are poisonous, but in different concentrations than in slightly potable wine. They originate from the glycerol, which is formed during fermentation and finishes the taste of our wine. This is converted into 3-hydroxypropionaldehyde (3-HPA) by the lactic acid bacteria, which is not yet evident. If there is still a lot of acid present and the temperature rises, which the winemakers themselves work to get or maintain malolactic fermentation, bitter poisonous acrolein is produced by de-hydrolysis. The sweetness, acid and tannin mask this substance into the wine. The concentrations in the wine are of course completely harmless but as perceptible as real bitter because the malic acid is largely transformed into mild lactic acid.

Tannin or tannic acid.

The tannin or tannic acid is considered to be the noble bitter substances and, due to its astringent effect, also cushions a fast bowel passage. Tannin is indispensable in red wine and belongs to the group of polyphenols together with the anthocyanes, the dyes. The bonding with these dyes gives the tannin color and keeps it in the wine. In the white wine there are no colorants present to bind but there is also invisible tannic acid present.
Especially dark wines contain a lot of tannin such as Barolo and Barbaresco from Italy and Syrah from the Rhône Valley. The Tannat grape even received her name and honored her name. The Black Cahors wines based on Malbec (min75%), also called Auxerrois, Cot and Pressac, are made with Merlot (max 20%), Tannat (max 20%) and Jurançon noir (max 10%).
We immediately have a nice collection of grapes filled with anthocyanans and tannins. The Cabernets and, to a lesser extent, the Grenache can also be included in the circle, giving the Bordeaux and Rhône wines not only a good body but also healthy properties. The wines grown on cooler terroirs are much richer in resveratrol, which speaks for the benefit of Syrah from northern Rhône and the disadvantage of Grenache from southern Rhône.
Due to the bond between tannic acid and anthocyanans, the influence of wine on health is also largely determined by the level of tannins. The means to drink the strong, dark wines usually involve the oxidation of tanning acids by aging or direct oxidation via microbullage, and thereby largely destroy the health promoting qualities of these wines. For the same reason, it is seen that the populations who use young and tannin wines enjoy the best of what is called the Frence Paradox. This phenomenon is more pronounced in the small northern Italian villages with the use of their local uncomplicated young wines than those who occasionally drink some heavy wine from the Madiran or Cahors.

3340 Dyes
The color of the wine is largely achieved during the maceration, which can take up to 20 days. In addition, the dyes are released from the skin and are supported by the tannins. Therefore, we find less color in tanninearme wines and lose their color when aging. White wines have few or no dyes, but are therefore not without anthocyanins. These are colorless in hydrated form.

Sorbitol C6H14O6
Is a poly alcohol with half of sweetening sugar two-thirds of calorie content. This means that you need to add more calories to achieve the same sweetness for sugar, which makes it unsuitable for diabetics.
Occurs naturally in apples, pears, plums and cherries but mostly in berries. Grapes do not contain sorbitol! Beverages containing sorbitol are therefore not derived from grapes or sorbitol is added. This is thus a means of recognizing false wine, which is not derived from grapes.

Salvestrols and protection against cancer.
There are many enzymes in the living creatures, but they are not always active and therefore remain unnoticed. Many enzymes only work when they are needed and consist of groups of similar but different substances. The group of CYRP enzymes contains more than a

thousand members. They are usually in the liver eb specialize in gifts, which we usually stop in medicine. They actually prevent the action of toxic drugs, but they also neutralize the gifts we enter with our food or produce ourselves.
A particular CYRP enzyme is found in cancer cells only, but remains inactive as long as it cannot connect with Salvestrols. These are substances that make the plants to fight fungi. Once the CYRP can combine with Salvestrols it destroys the cancer host cell. Insufficient Salvestrols does not produce any effect, too much occupy all ports on the CYRP enzymes, causing nothing to happen again.
Salvestrols are found mainly in green vegetables and red fruit. Thus, the method of getting these substances is to start green with green and end with red. The nutrients provided by the food industry contain shamefully little salvage rolls because the crops are protected against any possible confrontation with fungi through strong fungicides.
Organic foods contain much more Salvestrols than intensively grown vegetables and treatment with synthetic and antifungal agents prevent the formation of the enzymes precisely because the plants need a stimulus to produce them.
When I tell you that one of the first and most active salvage roles is Resveratrol, you know that both the problem and the solution are set. Grapes and red wine contain a lot of resveratrol and are therefore cancerous if used to a degree.
Within the scope of this discussion, we will focus on the red part of the salvage rollers, especially the red wine with its high resveratrol content. However, in the frame of the full feed, we will also provide the green component as a green salad with the starter or vegetables in the main dish.

Resveratrol

The phytochemical substance resveratrol is naturally occurring in plants and belongs to the polyphenols, which are part of the immune system in the plants and are active against bacteria and fungi. The standard trader is the extensive rootstock set of the Japanese Polygonum Cuspidatum, a non-unpopular plant of about 120cm high with white flower flowers. They broke out of the biological gardens and today colonize the railway berths where they can reach 3 meters high.
The extract, resveratrol, from these rootstocks has been a superhit in eastern medicine for centuries, used internally to increase immunity and external as a defense against bacterial and fungal infections. Other sources include blueberries, cranberries, blackberries, Norwegian blueberries and mulberries. Furthermore, groundnuts, pistachios and cocoa are large recipients of resveratrol, like grapes and apples, to forget about the aubergines, which is ranked second to American apple pie !.
Consequently, it is not surprising that red wine contains an important concentration of resveratrol. Because the substance is mainly in the shell, the white wine will contain little resveratrol because of its production method.
Operation
Animal tests have shown that resveratrol is an antioxidant that works anti-inflammatory and anti-cancerous. The action is more and more regarded as a fasting factor that reduces the caloric effect of the diet, a type of glucose masking. The effects are these of caloric limitation, resulting in less rapid aging and less heart and blood vessels, especially in the brain. Regular consumption of resveratrol carrier thus works as a calorie-lowering diet. The intake of resveratrol acts as a deterioration of the glycemic value of the nutrients. As a result, less insulin is released upon ingestion of sugars, resulting in less insulin resistance, resulting in less rapid obesity and obesity, resulting in less rapid diabetes and less cardiovascular disease

Resveratrol as an antioxidant

Resveratrol as an anti-inflammatory and autoimmune inhibitor

Resveratrol as life extension

Each gene has 7 types of "Silent Information Regulator Protein" that hang aside and serve in copying during cell division. With each one, something of this string will be lost until there is too little left to share. The richer the power of the cell, the faster the division and the faster the end or chance of bad copies that cause cancer. The hunger effect of resveratrol has a very interesting effect on this tail because it reduces cellular nutrition and thus inhibits cell division and aging. As an antioxidant it also prevents attack on the SIRT1, the most studied. In any case, SIRT1 controls the lifespan of healthy but also cancerous cells. We hope there is a sufficient analogy for the remaining 6 SIRT. In any event, the consequences are not few. SIRT1 is called both carcinogenic and cancerous. The substance is still significant in prostate cancer, colon cancer and acute myeloid leukemia. It neutralizes the enzyme P53, a known anti-cancerous substance that balances it. Therefore, doubts exist whether SIRT1 cancers appear as cancerous or carcinogenic. In other cancers it binds to cancer-causing enzymes such as BRCA1 in breast cancer. It is always a dime on its side or the undoubtedly active substance causes cancer or agitation, but it certainly plays a role. The desired balances are usually not yet known. So we have to decide that nothing is pure white or black but everything is gray. So let's fall back on the rough measure of the effect of resveratrol on our survival chances.

In yeasts, resveratrol prolongs life by 70%, fruit flies get 40% extra. It is difficult to estimate how much time a daily dose of resveratrol adds to human life, but in cellular terms one can expect such a 50%. This can prevent or delay a lot of complications, especially in neurological conditions such as the development of Parkinson's disease or eye retinal erosion of the retina.

Antioxidative activity organizes a type of hunger diet and thereby lowers the risk of insulin resistance with all of the following problems such as obesity, fatigue, cardiovascular disease and diabetes2.

The following details provide a deeper insight into the picture.

Resveratrol as a protector of heart and blood vessels

Due to its anti-inflammatory ability and as a coagulation inhibitor, the intake of resveratrol reduces the risk of blood clots and inflammations in the heart and blood vessels. It has a serious effect on the number of infarcts.

Resveratrol changes the conversion of omega-3 fatty acids into the body, which also increases blood vessel protection.

Resvertrol as a guard against diabetes

Three glasses of wine a day significantly increase the sensitivity to insulin. This immediately reduces the risk of diabetes 2. During the first 90 minutes after consuming a glass of wine, it increases metabolism, causing many calories to burn. Heavy alcoholic wines naturally turn off the balance to the bad side.

Also, the cholesterol LDL decreases clearly measurable, another positive change to diabetes 2. The HDL is increased, which is again positive.

Resveratrol and heart and lung function

Due to the lowering of LDL and the increase of the neutralizing HDL, there is less chance of plaque formation in the veins. Reservatrol is also a powerful antioxidant, preventing the

remaining LDL from oxidizing and depositing on the vein walls, thus giving double protection. Moderate wine drinkers enjoy the anti-inflammatory effect of resveratrol, non-drinkers and heavy drinkers miss this substance or undergo the adverse effects of accompanying alcohol. Moderate smokers and people who are at risk of lung disease due to the height at which they live, smoking, poor working conditions or exercising their hobby may benefit from a reduced response due to the lung tissue that may cause inflammation, decreased capacity or lung edema. Due to the reduced inflammatory reactions, even those who have the habit of smoking reduce the likelihood of lung cancer.

Resveratrol as a protector of the brain

In normalization of the flow, inflammation often occurs and even the self-destruction mechanism of the cells decreases. Resveratrol reduces its antioxidant and anticaloric effect to the utmost influence of blood sugar and clot and plaque formation, on the other hand, it improves blood supply to the brain.

Resveratrol increases the production of heme oxygenase, the enzyme that protects the brain cells from the oxidizing and cohesive action of heme, an iron-containing protein, which is especially important in stroke and other acute and chronic inflammations such as Alzheimer's and Parkinson's. Due to the less severe immune responses, less protein plaque is formed between the synapses in Alzheimer's; By the "hunger diet" that imitates the resveratrol and antioxidant action, the cells age much less rapidly, so that they only trigger the suicide that leads to Parkinson's disease in the genetically predetermined subjects. In the event of blood outbreaks or ischemia, the lack of blood supply, the cells are stimulated.

Resveratrol as a liver protector

Tests have shown that a regular use of resveratrol hepatitis is reversible by a faster metabolism of the liver fat. Especially non-alcoholic fat liver disease (NAFLD), which evolves in liver cirrhosis in 20% of cases. Alcohol abuse also leads to liver cirrhosis but moderate use of wine reduces cirrhosis at NAFLD.

Resveratrol as a stomach protector

The Helicobacter pylori, the bacterium that causes gastric ulceration of gastric cancer, is severely weakened by resveratrol, in particular by extracts of pips and peanuts from the muscadet grape. This leads to a reduction in the number of complaints in infected persons, the estimated number of which is 10 to 20% of the population in developed countries. This can amount to up to 90% in the less developed countries due to less strict hygiene and the habit of feeding the children with direct contamination. Drinking wine reduces direct complaints.

Resveratrol in wine

Concentrations of active substances are usually expressed in mol / liter, equivalent to the molecular weight per liter, because the amount of expected reaction can be measured. For resveratrol, 100 mol / liter is said to be high in content. Red wine contains about 26 to 28 moles / liter. The cooler the wine is grown, the higher the content. Expressed in milligrams / liter we can make the comparison.

Terroir or country of origin Average trans-resveratrol in milligrams / liter
France - Bordeaux 3.89 ± 2.20
France - Côtes du Rhône 3.60 ± 2.38
Central Europe 3.26 ± 1.18
Canada 3.16 ± 1.34
France - Burgundy / Beaujolais 2.88 ± 1.72
Italy 1.76 ± 1.51
Spain / Portugal 1.64 ± 0.95
California 1.47 ± 1.76
Australia 1.47 ± 1.26

South Africa 1.21 ± 0.95

Depending on the type of grape and of course, depending on the type of fruit, plant or root, the resveratrol content differs. In order to compare with the above table we will also express it in milligrams / liter or kilogram.
Subject Average Trans Resveratrol
Milligrams / liter of kg
Grapes Merlot 6356
Table grapes 6471
Grapes Pinot Noir 5746
Grapes Cabernet Sauvignon 2475
Cranberries 900
Blueberries 1074
Wine Merlot Chili 1994 2000
Cabernet Sauvignon California 1995 98
Cabernet Sauvignon Bulgaria 1996 1380
Itadori root 2170
Itadori tea 972

Flavonoids
They are substances that all have a nitrogen-free chain as a common feature. They are present in a lot of fruits and are usually responsible for their color. Curiously, we sort the fruits and plants with many flavonoids to the herbal herbs. We find them most in blueberries, spices, dried green and red beans and the leaves of the Japanese nut tree, the Ginkgo Biloba. The extracts of these blades are used as a vasodilator in the brain against dementia and other memory problems. Tea and (red) wine contain substantial amounts of flavonoids. In the shell and the fruit of grapes we find 100mg to 135mg of flavonoids per 100g of fruit. Also in the colorless layer of orange and peel, they are abundantly present together with a provitamin B, which positively influences liver problems. There are thus several sources of flavonoids, each of which can contribute to a healthy diet and well-being.

Brettanomyces (Brussels Service)
Is a non-spongiform yeast type commonly found in beers such as Liefmans, Orval and last but not least Geuze. The Brettanomyces Brusseliensis, in particular, is world-renowned. Also in wine he is often a guest, but it is not always a welcome visitor. Some winemakers flirt with this strain and keep it under cover with sulphite. If it goes out of hand, the whole thing stinks to mice urine (goût de souris). This fermentation runs quite slowly and it is less likely when the alcohol content of the must rises quite rapidly.

Derived products of wine
The first and most important derivative of wine is wine vinegar. It is the alcohol that is transformed into vinegar by the vinegar bacteria and that alcohol can be from any origin, but the other elements in the wine make vinegar to something special.
Also the fact that the conversion takes place by bacteria is primordial because it takes place in two steps and the second step does not happen completely leaving a large portion of fruity aceethaldehyde. Ripe apples can also betray this fragrance. However, in purer form it is an irritating toxic substance, which is converted into acetic acid into the liver. It is a powerful

reductor, which reacts with metal ions and bases. It is the substance that causes nausea and vomiting in the case of drunkenness.
Because acetaldehyde is highly reactive, it demands priority on combustion and prevents the burning of fats and converting lactic acid to glucose. This leads to hypoglycemia and, at the same time, to a storage of fat. (Vw17)

Aceto balsamico is the direct result of raisin juice transformed to vinegar by the vinegar bacteria that is present in any raw oak wood. That is why barrels need to be burned before use.