WINE & SPIRIT EDUCATION TRUST

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PETER ALLAN SICHEL MEMORIAL LECTURE 2001 DELIVERED BY DR THOMAS STUTTAFORD AT VINTNERS HALL, LONDON EC4 ON 10 JANUARY 2001

JOHNNIE PATRICK MW, CHAIRMAN OF WSET TRUSTEES: Good evening. Master, my Lord, ladies and gentlemen, on behalf of my fellow Trustees I should like to welcome you to this, the Peter Allan Sichel Memorial Lecture: the seventh in the Trust's series of annual winter lectures. It is a great pleasure to see you all here this evening in this magnificent setting and I should like to thank the Master and the Wardens of The Vintners Company for allowing us once more to meet here in the spiritual home of the wine trade.

I am also particularly pleased to welcome this evening Allan Sichel Président-Directeur-Genéral of Sichel SA. This series of lectures is named in honour of Allan's father and we are most grateful for the continuing interest the family shows in the lectures and for the support they give to the Trust.

The Wines and Spirit Education Trust was founded in 1969 by four organisations: The Vintners Company, The Wine and Spirit Association of Great Britain & Northern Ireland, The Worshipful Company of Distillers and The Institute of Masters of Wine. To this day, all Trustees of the Wine and Spirit Educational Trust come from one or other of these four founding fathers and the Trust greatly values its relationship with them all.

The primary objective of the Trust was - and still remains - the promotion of excellence in the product knowledge of wines and spirits among members of the drinks industry and associated industries. From the outset, the Trust's qualifications of Certificate, Higher Certificate and Diploma have been seen by the UK industry to be the benchmark in vocational training of product knowledge.

For many years now Government, in the form of the Department for Education and Employment and its predecessors, has recognised these qualifications. Such a reputation is highly valued by employers, their employees and of course the Trust itself. The development of the new National Qualifications Framework, currently under way under the aegis of the Qualifications and Curriculum Authority, will allow our qualifications the opportunity to achieve even greater official status for the benefit of individuals and employers alike.

The secondary aim of the Wine and Spirit Education Trust since 1991 has been to promote the knowledge and appreciation of wines and spirits among members of the general public. A more knowledgeable the consumer is likely to be a more discerning one and as such can only be a customer worth cultivating. The Trust's activities are not restricted only to the UK.

International hotel chains, educational establishments and independent wine educators abroad are increasingly adopting our qualifications, courses and educational materials.

The Trust's qualifications are now offered in 16 countries overseas, from Europe to the Americas to the Far East, and we are currently hoping to set something up in China - what a huge market that's going to be. This international business currently accounts for some 15% of our customer base. In the last academic year, for instance, just fewer than 11,000 people sat one or other of the Trust's examinations in 211 venues in the UK and around the world.

An important objective of the Trust is to foster responsible, professional and social attitudes to the sale and consumption of alcohol. The choice of speaker tonight, therefore, may be seen in that light. Dr Thomas Stuttaford needs little or no introduction from me: a former Member of Parliament, an author of note, the distinguished Medical Correspondent to The Times. And also to be noted, I believe he has contributed in a major way to the perennial debate about the health issues concerning alcohol.

It gives me great pleasure, therefore, to invite Dr Stuttaford to address this lecture this evening. Thank you.

DR STUTTAFORD: Master, my Lord, ladies and gentlemen. It's a great honour to come here tonight to give the Peter Sichel Memorial Lecture. I met Peter Sichel at the Reform Club where he, from time to time, came along with a group of wine experts and would talk to us about wine. He always talked to us very knowledgeably; he was very articulate and he had the great gift, when he was talking to a small group like that, of having the knack of seemingly talking to each of the dozen or so people around the table as if he had come particularly to meet them. We were both born in 1931, which he told me was a terrible year for wines – except for Port. He only could hope that it would prove a better year for people, and I hope the same thing.

Now Wine and Health. Of course, this has been very contentious over the last 60 years, perhaps 50 years, but up until then wine – and all alcohol – had been thought of as a very useful medicinal potion as well as being very useful, of course, as oil for social and professional wheels.

About fifty years ago, there was an extraordinary puritanical movement which spread, I think, across from America which cast doubt upon the wisdom which had been collected over 5,000 years that wine was actually rather good for you. And certainly, in my father or grandfather's day, there was absolutely no doubt about this at all. My father prescribed Champagne at 11am for those who could afford it and Guinness for those who couldn't. From a very, very early age we always had beer with our lunch and in my early teens, I always had a fairly strong whisky with him before I went to bed. So he brought us up to think that alcohol was quite good, not good only for the patients but for the doctor's family too.

If one goes to Egypt and you look upon the tombs, you can see images of wine being made 5,000 years ago. If you go and look at the Greek and Roman empires - if you look at what they wrote - you will see that Hippocrates, Pliny and all the writers as well as the leaders of society again thought that alcohol was beneficial. What is fascinating, I think, is that whereas both Hippocrates and Pliny wrote about wine and said how wonderful it was for a wide range of illnesses, Pliny actually did realise that red wine was better for you than white

wine. And he also knew why it was better for you. He didn't understand the science of it but he knew that it was the inclusion of the grape skin in the manufacture that made the difference to its powers of providing longevity and health. It was a remarkable observation. One cannot help but feel it was chance but, even there, it is in his works for all to see.

If you did Roman History or Ancient History in School Certificate or whatever it was in your rather younger days – you may remember that in the Roman army there was no option about drinking wine and nor was there any option about slave owners giving wine to the slaves. In Roman days, as the generals pushed across Europe, they attributed some of their success as an army to the fact that their soldiers had wine and the Barbarians didn't. And they said that this was because the wine prevented the infections that killed off the Barbarians in the ghastly wet winters of Northern Europe. We all remember that as a little bit of Roman history and we probably don't take it very seriously but, in fact, it is quite true: wine does have some powers of protection against infection. This was tried about ten years ago in some experiments in the West Indies, and people enjoying a Caribbean holiday were monitored to see how many of them got tummy upsets after eating the shellfish. And they discovered that the number of people who suffered the following morning from the shellfish was, rather surprisingly, inversely proportional to the amount of wine they had drunk. Now it is my experience when people come to me and said, "It must have been a poisoned oyster", it was probably about two bottles of wine too much. But when they carefully measured it out there in the Caribbean, they discovered that if you had wine but not – I hate to tell any brewers here - if you had beer, you were less likely to pick up any food poisoning. And that again is just an interesting minor statistically significant fact.

But there's been one puzzle in medicine and that is why is it that small quantities of wine or other alcohol, but particularly wine, will help people by preventing them from getting peptic ulcers, duodenal ulcers, gastric ulcers, but larger amounts, of course, make the ulcer much worse. And the same statistics are well recorded, for instance, in cancer of the oesophagus. If you drink too much, particularly if you smoke and drink too much, you are more likely to get it: if you drink just a modest amount, you are less likely to get cancer of the oesophagus. And those two explanations may lie in an organism called *helicobacter pylori*, which is a bug which lives in many people's guts and which accounts for 80% of cases of duodenal and peptic gastric ulceration. So what was happening, of course, is this: if you have a small amount of wine – a modest amount – your half bottle a day - you will be killing the *helicobacter pylori* or weakening it - just as the Roman soldiers found that the organisms they had to put up with were killed by their wine. But if you have too much, well of course, what happens is you just burn the lining off your gut with the acid in the wine. So the choice really, is yours. Anyway, it's worth remembering that ulcers are not related to professional tensions, ambition, domestic strife; they are related to a little bug and that little bug takes very unkindly to a daily dose of alcohol.

Now the effects small quantities of alcohol on the gut, in terms of keeping us all alive, are fairly peripheral. We're not going to die from our duodenal ulcer – or very unlikely that we're going to die from it. We may have trouble from it; we may have surgery for it; we won't die from it. What kills most people in this country is still heart disease. And this is where alcohol in general, and again wine in particular, has made such an enormous difference. The figures for longevity, as you know, are very much better if you are a modest drinker. If you are a teetotaller, your chances of not making old bones are rather reduced. If,

on the other hand, you are a hugely heavy drinker, you may have other problems and your expectancy of life will be reduced. But what is interesting is that although your expectancy of life will be reduced if you drink very heavily, and although there is one heart condition which is very much more common in the heavy drinkers, there is still a reduction in the death rate from heart disease if you are a regular heavy drinker. This is not so if you are a binge drinker. I am not recommending that you should be a regular heavy drinker because it is the modest drinker who does best. But the really heavy drinker, too, doesn't suffer so often from heart disease.

When I was a student and a houseman, one of my roles was to go to the post-mortem room every day to see what had happened to my boss' patients. Had he got it right, you see, was his worry; he usually had. And the pathologist took me round the patients laid out one day and we went round from artery to artery and he pointed out to me – and it's made a lasting impression on me – how glistening and fresh were the inside of the arteries of the people who drank a bit and how diseased they were if they were totally teetotal. And it was a very good lesson: it is a remarkable effect.

You can demonstrate the same thing - if you don't want to visit the post-mortem room - if you go to some of these animal laboratories where work is done on heart disease. They will take rabbits and give them an enormously rich diet, laden with fats and they will feed those rabbits not only on a very, very rich diet, but they will give some of those rabbits water to drink, some of those rabbits beer to drink, and some of those rabbits wine to drink. And then they open up the arteries and they look at them and you will see that despite that terrible diet - it is really the French paradox, isn't it - despite that terrible diet, if you look into those arteries of the rabbits who have had the wine as opposed to the water, their arteries look remarkably healthy.

So we have to decide what it is about alcohol which keeps the heart beating very much longer; why it is that when you look at civil servants in this country; when you look at 84,000 nurses in America; when you look at the Framingham study - where they've been studying a small town in America for year after year for nearly 50 years - why it is that the modest drinkers live longer than either the teetotallers or the heavy drinkers and why there does seem to be a difference between the wine drinkers and other drinkers, and red wine drinkers as opposed to white wine drinkers.

Well, the reason is two - or three-fold. When you have alcohol – doesn't matter what you're having: vodka, whisky, anything you like – when you have alcohol, your blood fat is carried in a less dangerous way. You may go out to dinner, to a party somewhere and someone will say to you, "What is your cholesterol?" Well, it's a fairly meaningless question really because it doesn't really matter too much what your cholesterol is but what does matter is, "What is your low density cholesterol?" because it is the low-density cholesterol which is the killer and it's the high-density cholesterol which is the lifesaver. You can remember this if you – and this is actually not very good pathologically speaking but it's an easy way to remember it – if you think of dragging candyfloss through a tube, it would stick in a horrible gooey mess on the inside of the tube and you could imagine that horrible gooey mess causing terrible troubles in years to come. If, on the other hand, you were to blow lead shot into the tube, it would leave no damage to the tube whatsoever. And that is how you can remember that it is the high-density lipoprotein that is life saving, heart-preserving and the low-density that is the killer. And if you – this is the good news – if you drink your daily ration of

alcohol, the high-density lipoprotein cholesterol, the good cholesterol, goes up and the low-density comes down. It is because of the alcohol-rich and the antioxidant-rich diet of the French that you get the effects of the Mediterranean lifestyle, Mediterranean diet and the so-called French paradox.

If we just look at one particular problem we have this week, the problem of deep-veined thrombosis from air travel, there is an obvious answer, which you may have seen in The Times. We are always told we've got to wear long, thick socks or stockings to stop our deep-veined thrombosis from forming; we must walk up and down the aisle; we mustn't drink because we've got to remain hydrated – we should have plenty of soft drinks. But really what you should do when you get on to the aircraft - if you haven't got gastric problems – is you should take an aspirin and you should have a couple of glasses of red wine with the aspirin. And that would give you the first aid treatment which might carry you through, not just for the next eight hours, but some of the good effects would still be there ten days later for your return flight. Alcohol or red wine potentiates the effect of aspirin by a factor of four or five; some people will say eight. So it will make your blood less likely to clot if you have some aspirin and a glass or two of red wine. Have the soft drinks too, so that you don't become dehydrated. Walk about too, but take the additional precaution.

Now when we take alcohol, not only do we not have so much fat deposited one way or another in our arteries, because of the increase in the high density lipoprotein, but our platelets – those little particles in the blood which clump together to form a clot - are very much less sticky. And because they are less sticky and because there are slightly fewer of them, again, our blood clots less readily. And there's quite a good example of this because I'm thinking of that one form of heavy drinking which is bad for you is the binge heavy drinking, which is rather narrowly determined as, really, anything more than a half bottle plus a glass of whisky last thing at night? But binge drinking produces an increase in the stroke rate and it is the strokes that usually cause those little clots. But there is one form of alcohol where you don't get the Friday and Saturday night increase in the ischaemic stroke rate, shown in those people who, if they go out binge drinking, drink red wine. If you look at the figures from casualties - and the best work on this was done in Sweden - you'll see there's a straight-line graph for Monday, Tuesday, Wednesday, and Thursday. On Friday night there's a little peak, on Saturday night a bigger peak - and those are the people who have come to grief because they've been binge drinking and they've had ischaemic strokes. But you then look at those people who when they go out drink red wine, then the line is virtually straight. They get away with it as far as their strokes are concerned. But we're not talking about the heavy drinkers, we're talking about wine and health, and wine and health is wine and modest drinking.

Now the basis of the advantages of wine – or many of them – are tied up in the antioxidant role of red wine. We all think that oxygen is essential for life and so oxygen is essential for life. Our brains only live three or four minutes if starved of oxygen. It's quite essential for life. But, rather surprisingly, oxygen itself can be toxic in the wrong place at the wrong time and so anything we take which neutralises oxygen is going to halt the degenerative processes, the malignant processes and the damage to the inside of the arteries which encourages fatty material - the atheroma - to stick there. The average DNA cell in the human body is attacked – hit as it were – 10,000 times a day by an oxidising radical, a damaging free radical. So what we need is something to neutralise these damaging free radicals and it is maybe difficult

for you to think that oxygen which is so life-giving is also destructive. But if you think of the ordinary pair of iron gates outside a stately house somewhere or other, the iron gates – if they haven't got that protective coating of red lead and paint – will rust in no time at all. They will degenerate and flake away. And the same thing happens to our cells. Unless we have the equivalent of the red lead and paint to protect our cells, they will degenerate quickly. The red lead and paint we can all have is half a bottle of anything like Chateau Searsault or something of this sort. That will keep us going.

Of course, it is not only in red wine that you will find these antioxidants. You find them in tomatoes, brightly coloured fruits, and a great many other things too, but red wine is one of the most pleasant ways of taking it. You will often come across people – I do myself actually – who take Vitamin C – who are very proud of taking Vitamin C - but gram for gram, alcohol is about eight times more effective than Vitamin C as an antioxidant. This has effects way beyond the heart. Because every one of our DNA cells is hit 10,000 times a day, every one of our systems in the body can be affected by the free radicals and every one needs protecting by antioxidants.

And there again we find the explanation for one of these strange phenomena, which is that when we talk about people living longer because of alcohol, we attribute it to the effect on their heart. But when you break down the figures, the study of 84,000 American nurses for instance, it's not just death from heart disease that is delayed – all causes tend to be delayed, with one possible exception. So what is happening is that the antioxidant process is affecting other malignant and degenerative processes. And so, we look at the small dose of alcohol and what do we find? We find that women are less likely to get osteoporosis if they take small quantities. We find that whereas heavy doses of alcohol may make diabetes more likely, small doses make it less likely. We look at many of the cancers and a small dose of alcohol and cancer is less likely; a very big dose and it becomes more likely. So long as we get the benefits of the antioxidant effect of the alcohol, but don't get its toxic effects, we are doing pretty well and we are going to live longer.

Now there is always, of course, a fear about living longer. You think, "Goodness, I shall be dribbling, incontinent, my memory, always bad, will totally disappear: what a miserable life we're going to have. Better not have another drink this evening."

Well, that of course would be a grave error because the two areas of medicine where it seems that alcohol is going to be most useful are in heart disease and in Alzheimer's. If people drink a bit, they are not so likely to suffer Alzheimer's provided that they have never drunk so heavily that they have developed one of the specific dementias that are associated with alcoholic poisoning. So, if you are going to be paralytic and poisoned, or poisoned to a less paralytic stage night after night, you will find that you are going to have a more intelligent as well as a longer old age. The original work was done in America, where two most important studies compared twins: twins who had been separated at birth. They compared how these separated twins drank for the rest of their life and they found that the ones who drank throughout their life had less Alzheimer's than the ones who didn't drink. And it went beyond that: it wasn't only a question of Alzheimer's: they scored very much more highly on the IQ tests. The drinkers did best.

This was repeated in Australia where recruits from, I suppose way back in the 1960s or even earlier, have been now followed up for 50-odd years, and they discovered the same thing:

that the Australian army recruits who were drinkers had less Alzheimer's and were brighter. They then looked to see what the effect of drinking for 10, 20 years in the wicked youth when the subjects were 20 and 30, but then settling down into teetotal middle age and beyond and they discovered that some of that effect was persistent. So, even though they might have stopped drinking, their intellectual advantage still persisted and in old age they were brighter than was the person who had never drunk at all. This seemed almost too good to be true but there was something that could come even better than that. Was done in Scandinavia where they plotted IQ against alcohol consumption over the lifetime and they discovered, again, that the more you drank, provided you didn't become demented from the alcohol, the less likely you were to have Alzheimer's in old age. Most of the advantages of alcohol are between too little and you are in trouble, too much and you're in trouble but in the middle you're okay and you do better. But the one with Alzheimer's and alcohol is a straight-line graph, so it is that the more you drink, the less likely you are to get Alzheimer's. There are so many factors in Alzheimer's: surgery, head injuries, hereditary, but this is quite an encouraging one anyway.

I hope that will be enough to get some of you asking questions. There are hundreds of different other aspects I could mention. Can women drink as much as men? Can we go on drinking into old age? What is the effect of alcohol on the liver? I think perhaps that we ought to just mention that in passing because it is something which people do rather worry about. It has been the great bogey, of course, all one's life but it is a very, very odd business, the effect of alcohol on the liver, because there are two factors involved: one is your liver and how much you drink, and the other is your genetic make-up and your liver. Some people carry the right two genes to protect their liver from cirrhosis or even fatty infiltration. Others who are without these genes will get cirrhosis; slightly more will get fatty infiltration but six out of seven, and don't let this be an encouragement, have these genes and will not get cirrhosis of the liver if they drink. Six out of seven? Yes, it's only one in seven, it's only one in seven who will get it, which is quite encouraging. When I was a student we were told it was one in three. It then went up to one in five. It's now gone up to one in seven and with the new chromosomal map, they've found out where the genes are and on which chromosomes. I suppose, if you paid enough and went to the right place, they could tell you whether you are carrying those genes and are liable to get cirrhosis.

Remember that even if you start to get liver problems and you get fatty infiltration and if you are a man and you stop drinking, it is likely that your liver will get better. If you are a woman, it is not quite so certain but certainly men who stop drinking at this fatty infiltration stage, who will just get fatty deposits in the liver, usually recover completely. It's only those who have actually gone on to getting cirrhosis who don't but it's one of the great moments in one's life really, this type of thing. One of the minor great moments in my life was when I had my ultrasound done and the radiologist moved the ultrasound over the abdomen and you say rather anxiously, "And what does the liver look like?" They say, "Oh, very healthy, very glistening". Its texture is uniform throughout which means, of course, there's no fatty infiltration, no cirrhosis.

For many years one felt one had earned it but there was the proof, which is only one in seven of people who sometimes drink more than half a bottle are going to suffer.

Now, I am very happy to take any questions.

QUESTION: I didn't quite catch the definition of binge drinking.

DR STUTTAFORD: Yes. It's a very alarming definition. We all think of binge drinking as going out and having a really heavy evening but in medical parlance, binge drinking is about half a bottle of wine and a drink before and after dinner. It seems very little, I'm afraid. So, the fact the binge drinking is not much greater than what you are probably going to get in the normal day. If half a bottle of wine is about three and a half units, and your drink before and after dinner is another three, you can see how you can get above six units, which is classified by the scientists as being binge drinking.

QUESTION: Is it better to drink the half bottle of wine at lunch or at dinner?

DR STUTTAFORD: Well, that's a very good question. As long as it's spread over the day, a day is a short enough period for it not really to matter. What you are certainly not allowed to do, of course, is to have a whole bottle the following day and none on one day. I am forever meeting patients who come and say to me, "Oh, I think I'm all right doctor because I never drink on Tuesdays and Fridays or Wednesdays and Thursdays." This is the worst thing you can do because if you are drinking, you might as well get the advantage from it and the advantage from it is that your heart disease should be kept at bay. But if you drink just at weekends, and you don't drink the rest of the week, there's no chance for the liver to recover but for four or five days, you are not going to get adequate cardiac protection. So the person who is so proud of having those days off, "So I can become de-toxed" or some other terrible phrase, is actually doing nothing but harm to themselves.

You want to fix on a regular amount and take it. There's one group where intermittent drinking of that sort is rapidly lethal and that is the people who are on anti-coagulants with Warfarin. If you are taking Warfarin to keep your blood thin, as they say, so that you don't suffer clot damage, to drink intermittently can be absolutely fatal because the doctor won't have got your dose of Warfarin right. When you go onto the Warfarin, when you start on your anti-coagulant therapy, it is essential to decide how much you're going to drink everyday so that the dose may be kept exactly the same of both alcohol and Warfarin. So, the one little point about that, of course, is that if you drink at night, you can suffer a minor degree of drunken false dawn. If you've been drinking, one gets off to sleep very readily but tends to wake up four, five hours later. If you divide your alcohol into two, you may find that, not that I certainly do snore but you might find you snore less and sleep better throughout the night.

QUESTION: Why can one get a headache even after drinking a small glass of wine?

DR STUTTAFORD: We don't know. People used to think it was sulphites but this is not true. That's been disproved. We know that if you drink in excess, the headache is the result of two factors: one is that your brain is the only part of your body which doesn't become dehydrated when you've drunk too much; rather, it swells and so no longer fits snugly into your skull but is compressed. One of the advantages, I might tell you, of that is that when you get to my age, your brain has shrunk so there's room for it to expand after drinking which is very handy. But we think that there are various chemicals in wine which may give rise to headaches in some people and it seems that these some people may be helped by taking one of the non-specific anti-inflammatory drugs, non-steroidal inflammatory drugs like Brufen or Nurofen or something of that sort. You have to watch out for your tummy if you do that because it may give you tummy ache rather than headache.

QUESTION: Please could you comment on the effects of regional variety on red wines?

DR STUTTAFORD: Oh, where should the red wine come from? Red wine should come, you'll be pleased to hear, from France or Chile. It should be grown in a moist climate that is also warm. What happens, of course, is that it is the fungi on the skin of the grape that is the rich source of antioxidants. One therefore wants to, if you want to get maximum benefit from your red wine, you want to have - and I hate to tell you this - a not very old, traditionally-prepared red wine from France or some of the valleys of Chile. If you have wine made from grapes that have been baked hard in California or Australia, because every fungus has shrivelled and died you don't get the same advantage from the red wine; likewise, those that have been grown in other New World countries. If you have wine which has been made by some of these artificially rapid maturing processes, because you're getting your wine to mature very quickly, you're also making it into an old wine fast and again you get rid of your antioxidants. In getting rid of the antioxidants, you are making the wines seem much older and more mature than it was. It is not going to do quite so much good for your health.

QUESTION: Where does rosé stand?

DR STUTTAFORD: Yes, we mustn't be rude of course in anyway about other forms of alcohol. It seems that red wine is probably three or four times better for us than other forms of alcohol but all forms of alcohol for us are better for us than none at all. Rosé - I suppose it really depends on how it's made but I suspect it comes about halfway between the two.

QUESTION: Does the quality of wine affect the benefits?

DR STUTTAFORD: No, if you have really good quality wine and you drink it, ten years or longer after it has been made, natural processes will have started to remove the antioxidants. If you have cheap wine, it will have been made, not by a traditional means but by various artificially accelerating methods of wine making and that too will have probably destroyed the antioxidants. So, you want to spend a lot of money on your wine and then commit infanticide by drinking it too early!

QUESTION: How do you recommend losing weight?

DR STUTTAFORD: The greatest calorific value, I think, is in beer and in mixers. People take a glass of gin, it's not very weight inducing and they pour solid sugary orange or bitter lemon or tonic on top of it and then are surprised when they put on weight. I think an example of that is that people who drink have fewer gallstones than other people to quite an amazing degree, unless they drink alcohol with mixers. Put mixers with it and the sugar in the mixer more than removes the advantage of the alcohol and the gallstone bowls them over too. When I want to lose weight, I drink malt whisky with water - and a little bit of red wine!

QUESTION: Do you think that the medical profession and Government have a responsibility to recommend wine for specific conditions?

DR STUTTAFORD: I don't think the Government could do it. I, as an individual doctor, do constantly. The Government, you see, would be rather feeble, I think, about limits. I can absolutely see that we don't want to get a race of alcoholics but alcohol has been around for much longer than Britain has been around and there's no evidence that we're going to descend into being a race of alcoholics. Most people will be able to drink in reasonable moderation and are not likely to become addicted. You know the problems of addiction are very interesting and it is still unexplained, some of it. But the Government originally

suggested – and it was the recommendation of the medical centre where I was working - that people should have 42 units a week. This was a recommendation of all the Royal Colleges but this was at the height of the puritanical wave and so they then reduced it to absurd levels which obviously no-one is going to take any notice of at all, which, I think, were 14 for women and 21 for men. Women would be considered on the path to alcoholism if they poured themselves one gin and tonic a day; that was obviously absurd and those levels have now gone up to 21 and 28. But the work in which I was involved, in a very minor way, a spectator-way really, showed that very few men didn't suffer if they were taking 70 units a week. Very few men did suffer if they had 42 units or less. So that you could have your half bottle a day and a drink before dinner and if you were an average size man with an average metabolism, you're going to be perfectly all right. Women should take about a third less than men until they reach the menopause. The male ability to drink readily and easily without suffering ill effects decreases in old age but the woman's increases. So, when you first get married you give two thirds of the bottle of wine to your husband. When you are my age, I expect, indeed it happens, my wife takes at least half, you see. So, there is this change as you get older.

QUESTION: Do you think that my flu was caused by not drinking?

DR STUTTAFORD: Back to the Romans and the immune response. Alcohol in small doses improves immune response; in bigger doses it hurts the immune response. I would like to think this is the explanation. It may just have been bad luck but you've learnt your lesson anyway.

QUESTION: What do you consider a standard alcohol content for wine? Can that have an effect?

DR STUTTAFORD: Yes, it can. When I look at the bottle, I'm a bit disappointed if it's under 12% and I would have thought somewhere around 12-13% is what I consider the average. If you're getting down to some German wine or another with 7 or 8% or something of this sort, well, that's really getting down to strong beer. We are talking about something about 12%.

QUESTION: Would you advocate that children have a small glass of red wine?

DR STUTTAFORD: My children were brought up with diluted wine but there is one great danger with children if you give them encouragement to drink, and you have to be very careful about this, is that if they drink too much they can be really seriously ill. You know that all of us if we drink too much when we wake up the next day, we are sweating and a bit shaky and we've got that headache. One of the reasons is that our blood sugar has come down very low and that has given us hypoglycaemia - very low blood sugar. We are all right because we have a fairly elastic metabolic system and we soon compensate for this very low blood sugar and by teatime we are feeling better. But not so, small children. With small children if they develop the hypoglycaemia from taking alcohol, they can get a near fatal and sometimes fatal form of hypoglycaemia.

Children have this terrible habit after the parents have left the dinner table of going round and finishing off the bottles and the glasses and that is the type of occasion when trouble occurs. One has to be very careful about it. When I was a GP in Norfolk, I was on my rounds and the hospital rang me up about the eight-year old son of a friend of ours who said, "We think

that X has got a cerebral tumour and we're going to take him into theatre." This is before the days when you had CAT and MRI scans. I said, "Oh hold on, a moment. I know his parents had a dinner party last night. You ought to just make certain what his blood alcohol was", because I remembered that once he had been to our house and he had been deposited upstairs and he and my youngest son had finished off the wine after dinner. I thought, "I bet he's done it again and this time he's unconscious". Sure enough, they did his blood alcohol and his blood alcohol was very high and what he was suffering from was hypoglycaemia and they gave him a glucose drip and he was perfectly all right. It saved him from having his skull opened up.

QUESTION: Is there anything specifically in white wine that is not in red wine that has health giving properties?

DR STUTTAFORD: No, they contain exactly the same minerals, but that all depends on where they were grown. Some people will find that with white wine, they don't get a headache and those people outnumber those who do not get a headache with red wine. On the whole you will find that - just an easy way of remembering - the lighter the drink, the less likely you are to get a hangover. So brandy gives you a bigger hangover than malt whisky, malt whisky gives you a bigger hangover than gin and you usually find that red wine gives you a bigger hangover than white wine. But it depends from wine to wine; that is just a general rule. There is no real advantage to white wine other than its taste in certain circumstances.

JOHNNIE PATRICK: Dr Stuttaford, on behalf of all of us may I thank you most sincerely for the most fascinating, stimulating and interesting talk that you have given us. We know your message, as ever, is moderation in everything. If you there are any further questions, I'm sure, Dr Stuttaford will be happy to discuss them over supper. Thank you very much indeed.