In our Time Programme 46
Education

Melvyn Bragg : Hello, in our time Plato made his priorities in education plain, when he inscribed over the entrance to the Academy "Let no one ignorant of mathematics enter here". He prized learning that revealed what he called, quote, "Eternal reality, the realm unaffected by the vicissitudes of change and decay", unquote, and this became the objective in Europe for thousands of years, vocational education, concrete skills were hardly dreamed of. But was he right? What's education for? Is it's role to teach us the nature of reality or to give us the tools to deal with it?

With me is Mary Warnock the philosopher and educationalist and author of many publications on the subject of learning, and Ted Wragg, Professor of Education at the University of Exeter and author of several books, including "The Cubic Curriculum".

Briefly to begin Mary, what was the philosophy behind Plato's emphasis on abstract ideas in education?

Mary Warnock : Plato, I think believed that you couldn't really know anything, except changeless truths and this was represented by mathematics and astronomy and music up to a point, but what he was totally uninterested in, was the actual world we live in. For instance he had no idea whatever of history or historical studies, they were completely absent, from his idea of education. So you had to work your way from being quite a young child through to the aim of education, which was to understand the nature of number and the reality that lay behind the world. The world itself, was really beneath contempt. Of course, you didn't want to stick on learning how to be a carpenter or something with real objects, because it was not worth anything.

Melvyn Bragg : So no mechanical education, it was mostly mechanical at the time, no particular concrete education, concrete skills entered his Academy at all?

Mary Warnock : Well, no not.....nobody entered the Academy who was interested in that kind of thing, but there was a very, very small elite who were capable of doing mathematics and the rest of the people just got on with doing their carpentry and so on as apprentices, and they learned that way, but that wasn't education really.

Melvyn Bragg : Broadly speaking would you say this was a distinction between abstract and applied education, and if so d'you think it continued for literally about a coup...more than a couple of thousand years until the 19th century?

Mary Warnock : I think that is right, I mean there was...in the middle, the church of course had a tremendous influence on education in the middle ages, but that was really to teach people to write and to read, so that came into it. But I think it's.....Plato's had the most terrible effect on Western education actually because it's meant that even if you did learn history or modern languages or something that was despised, compared with learning mathematics and things that didn't change and were abstract.

Melvyn Bragg : One of the things I am learning in this programme (laughs) over the years is that these people who sit in studies and do things seemingly quietly have the most devastating effects on the world! (laughter). But why do you think it was a "terrible" effect?

Mary Warnock : I think it's really, well certainly in this country, led to the despising of practical education, and the division between, as it were, real education, which after all, later on, of course came to include the classics as well as mathematics, but real education, was for an elite, and what you got, in learning to get around the world, learning to read and write, learning to make things, was thought to be lower, and I think that persisted for a very long time.

Melvyn Bragg : Ted Wragg, do you think that Mary's interpretation of ...or explanation, brief, but very clear, of Plato, do you find an echo of that in what you as an educationalist have seen of education over the last two thousand years?

Ted Wragg : Oh I think Mary's spot on yes. It's exactly what's happened, and in fact as Mary says, that we live with the legacy today, when we have to educate everybody. I mean that's the big change, we're not talking about an

elite. Higher education is a very good example you see, after the war 5% of the population went to university and then it was doubled to 10%, and then for 20-30 years, it remained about 14-15%, one in seven, and now it's a third. We've now got one third of young people going into higher education. So we've moved, even in the last 10 years, pretty rapidly from an elite, higher education system, to a mass education system, and the legacy, as Mary says, took about 2000 years to shake off.

Melvyn Bragg : Well let's go back...just for a moment, I mean d'you think that legacy, which is extraordinary long lasting and enduring between the abstract and the applied, and you could say that the medieval church, taught reading and writing, but again, to a few, and again for its own...one could say abstract, religious abstract....not religious abstract...I'm rushing it too much, but it wasn't applied, it still wasn't....do you think that distinction has been so long, is so deeply rooted, that it still affects - even though we may say "oh we're not like that anymore" - it still affects the way a great number of influential people, inside the system works?

Ted Wragg : Oh yes, it certainly does, I mean you've only got to look at the way that vocational education is looked down on in this country. Though it's not in Germany you see, and yet...I mean Germany still has some of the same traditions and histories as we have here, but I mean the Germans shook it off more, and so vocational education in this country, wrongly, is seen as second rate, unless you're a surgeon or in one of the professions where there is a.....seen by the public to be a strong theoretical element as well, and it's respectable, and then that's why people jeer, for example, if you get a National Vocational Qualification Level 1 for Car Park attendants, I mean the nation falls about laughing, well why? Surely, you can be safer and you can have better client service and so on, if you're a Car Park Attendant, but we look down on it, the Beruffe Shulle and the Techniche Hoch Schulle, which is the university equivalent are very respectable places and having a trade, becoming a master in your craft in the medieval guild sense are alive and well.

Melvyn Bragg : Why d'you think we're proving...it's proving so intransigent here? D'you think we...? Well you tell me.

Ted Wragg : Well we've had...I mean a good example, I don't want to malign the civil service, because it's full of people working hard and doing a good job, but for many years classicists were recruited to the civil service on the grounds that they would be able to turn their hands to anything. Well, I mean they were very, very capable, and quite adaptable, but they couldn't turn their hands for example to science and technology in a knowing way. That was the problem. I mean for example, in the classics degree, you didn't study, on the whole, classical science, and yet people like Euclid and Archimedes wrote in verse, I mean they wrote elegantly about science and technology. But on the whole people studied literature and history.

Melvyn Bragg : Do you think that the classical education idea which dominated here for the last 200-300 years, do you think that that has had a deleterious effect on the intellectual economy of the country?

Mary Warnock : Well I don't think that actually, I think that there's a lot to be said for classical education, for two reasons. One is that I think learning a dead language, particularly latin, is something which is enormously useful, because if you understand about an inflected language, and you don't have to bother with how you pronounce it, but you just learn the bare bones of the language, then this is very helpful, I think for learning other languages. But also because we, I think realise, and this includes a lot of civil servants, that you can't really understand where we are now, politically or economically, unless you understand where we were the day before yesterday and I think history is one of the main intrusions into the old style education.

Melvyn Bragg : Yes it came in rather lay with the idea of a Nation State didn't it?

Ted Wragg : Incidentally, I was going to say, don't underestimate the vocational element of some Greek education, it wasn't manufacturing ball bearings, because it wasn't that kind of society, but wealthy Athenians were willing to pay people like Protagoras 10, 000 Dracma to have their children taught rhetoric, because at that time as now indeed, it was very important to be able to stand up and speak in front of people. I man that in a sense was a piece of vocational training, but not of the kind that we'd always see now.

Melvyn Bragg : I'd just like to rummage round before this century for another few minutes before we come to this century. More than a hundred years ago JS Mill argued for universal education on moral grounds, because he said "it

would manifestly increase the general balance of pleasure over pain and happiness over unhappiness". Do you think it's had this effect? Would you still make that claim for universal education?

Ted Wragg : Well I would but I wouldn't minimise the unhappiness that education can cause as well. After all if you understand why and how things are happening you often angst more about them , so it certainly doesn't cure pain. But certainly, I mean I think the whole notion of education as a fundamental human right, is something that before Mill's time has been asserted by many people, and I think many people who work in education would want to demand it. Hence the arguments that you get when things like fees are introduced or whatever and people are saying "Hold on a minute, don't put any barriers in the way of anybody, because education is a basic fundamental human right". Hence the concern in the third world about the many children who get no education or only get an elementary education, don't get the chance to get a secondary or further or higher education.

Melvyn Bragg : What argument would you use Mary Warnock for universal education now? Why would you say universal edu..... there ought to be universal education? I know it's being very fundamentalist, but why not?

Mary Warnock : I think that we now do believe, and it is true in this country.....

Melvyn Bragg : Believe...it's a faith you think?

Mary Warnock : I believe that universal education could be counted as a right, I'm not particularly keen on talking about rights but there is a law that says everybody must be educated, and I think Mill's arguments were probably very good. It increases pleasure to be educated, and it also increases the possibility of using a vote or talking politically with a modicum of good sense. Because I think one thing that education for everybody should do is to make everybody critical, and I think it ought to rise at the same time as democracy rises as a universal franchise, so there ought to be universal education.

Melvyn Bragg : Isn't it rather curious though to link education to happiness? Can you , as it were, structure a system which delivers happiness?

Mary Warnock : Happiness is Mill's word, not mine, but I would.....well, going back a bit, I was once in a position where I had to justify educating people who were never going to contribute to the economy, people who were severely handicapped, who were always going to be a liability, in a sense, and we had to think of a way of justifying spending money on education, and I came up with the notion that the point of education was pleasure, that it opens up enormous possibilities that aren't before...before you're educated, in enjoying the world in the fullest possible sense, understanding it, enjoying it, manipulating it, all part of pleasure.

Ted Wragg : Well, music is a very good example you see, because, I mean I've...my family's keen on music, so I suppose I would have been keen on music anyway, but I mean I had a marvellous music teacher, in my secondary school, and in primary as it happened, and for me music has been a life long interest, and for me music is pleasure, I mean I don't have to listen to things I don't like, but I mean music has given me enormous pleasure and I would not have been able to make music and compose music and listen to music in the way that I can if I hadn't got it through education.

Mary Warnock : This is an education of values, I mean values are not only only moral values, there values of finding things that make life worth living, and music is one of them.

Melvyn Bragg : So we agree that education can be concerned with values and we've skipped over it very brief....we can't do everything, that education can be from a faith , you believe in education, but you then rather reluctantly accepted that it might be a right, it's certainly a law in this country. But can we talk about education in the economy, and as it were, and go round that for the next quarter of an hour, because that's the thing that seems to drive it at the moment? We need more people educated to a higher level because we need greater skills for the 21st century, without those great skills we're going to be.....decline into comparative industrial poverty, and none of us are going to be better off and so on and so forth. Is that.....I've just become to touch on it, but the link now with education and the economy, is high skills and high learning, intensive learning, are very very strong and they're coming at us all the time, what's your view of that Ted?

Ted Wragg : Well, it's certainly true that there's been a massive disappearance of unskilled jobs for example in our economy and the nineteen.....

Melvyn Bragg : Seven and a half million in the last twenty-five years.

Ted Wragg : Well exactly, in the 1970s a million jobs went from manufacturing industry alone, and most of those were unskilled and barely skilled jobs, and no one's going to get rid of two forklift trucks and hire twenty blokes with big biceps but no qualifications, it's not going to go back, and so what that means is that , if you like, the entry fee to society, certainly to working society, has gone up. But also you could say the same about recreation and leisure. If you have no skill, you can still have recreation and leisure, but your choices are limited. If you can't read very well, if you can't understand maps or whatever, if you can't organise yourself, then you choices are much more limited than if you've got imagination, drive, good standards of literacy and so on, when you've got a much wider choice.

Melvyn Bragg : So we've seen now very clearly....why have we just seen it now? Why didn't we see it before, because there was so many unskilled jobs available?

Ted Wragg : Yes because it's accelerated, I think the point was....I did a radio programme with Sheena McDonald in a school in Birmingham and we interviewed parents who'd been to the same school who were in school now, and virtually every parent said the same thing, which was, "when I was a child, in this school in the 60s or 70s, there was no worry about getting a job in Birmingham, but we're very worried, not only about our children getting a decent job, but getting any kind of job at all.

Melvyn Bragg : What do you think about this urgent lining of education to the future of the economy and the future prosperity of the country, Mary?

Mary Warnock : I think it can be exaggerated, I mean the facts are there, we need.... in this country urgently needs proper....properly trained, skilled people to get jobs and to improve the economy, but I think if that is taken to be the only justification for education, then I think that's an exaggeration, and understandably enough I think, people who really want to make their point tend to exaggerate it and tend to overlook the enormous benefits which Ted has just talked about, to the person himself, who gets the education, it adds to his pleasure to have enormously wider choices, and things to do, it adds to his pleasure in work, to be doing work that demands skill rather than just breaking stones or whatever it is, and it obviously is good for the economy.

Melvyn Bragg : But it's interesting isn't it, that almost reverse from the time of Plato...and fashion in its widest sense has always fascinated me, it's such a vice, it takes a hold in such a way...I'm not talking about women's dresses, I mean the fashion of the day, and the fashion of the day now, is for the that education must prove itself by making people skilful enough to compete with silicon valley, that's really what it's all about, and anything else has to fight for a look in. I mean d'you think...d'you think that that central drive is going to change education massively from the Platonic to the anti-Platonic?

Mary Warnock : Well, I'm afraid it may go too far, I sound tremendously Greek in saying nothing too much, but I really do believe that one can swing too far in this direction, because if you find difficulty in justifying education in anything except what will get you a skilled job in a manufacturing industry to take an extreme case, if you find it difficult to justify any other education, then I think you've lost an essential point of education which still needs to increase the understanding to open up new values that make life worth living.

But I think the key to trying to keep a balance between these two, is the concept of imagination, because to be a good scientist or good technologist, you do need imagination as well as skills and knowledge, and of course your imagination can go off in all kinds of different directions, and you still get the pleasure, the value out of your education. So I would find it very difficult to agree with someone who thought that the primary point of education is to educate the work force that the economy needs, that will follow, if the imagination is allowed to develop in all kinds of different directions.

Melvyn Bragg : Ted Wragg...

Ted Wragg : Er....

Melvyn Bragg : ...sorry, Ted Wragg, would you.....? What's your comment on that?

Ted Wragg : Well the curriculum doesn't actually, you see, have a strong vocational focus anyway. If you look at the National Curriculum, it's quite a liberal kind of curriculum, I mean people study great aeons of history, 4000 years of it, with barely a vocational whisper in sight. The mathematics they do is a sort of mathematics people have always been doing, the same with the science, it's fundamental precepts in science. Learning about electricity, magnetism and so on, rather than necessarily concentrating on its applications in a particular industry. The arts, the same, and in fact, if anything, schools get criticised for not being aware of the world of work, other than a bit of work experience with older pupils. So I think if you look at the curriculum, I don't see any signs, of certainly between say the ages of 5 and 16 of it being screwed towards the economy. The only danger I suppose, is when sometimes there's pressure, wrongly in my view, to over emphasise the basics, of course the basics are important, but I mean there are so many demands on people now in the 21st century that to concentrate only on the basics would be doing children an enormous disservice. That would then be saying, "We assume you going to spend your lives in a pretty boring factory kind of job, so make sure you can read and write and count". Well in fact, most of the jobs that people are going to do are going to be in growing fields like what generically now gets called "hospitality", which is things like hotel catering, fast food shops and so on, they'll be working with people.

Melvyn Bragg : You....the philosopher Gilbert Ryle made a distinction between "knowing that" and "knowing how", and in your book "The Cubic Curriculum" you argue in favour of Ryan's second distinction for knowing how could you explain that?

Ted Wragg : Well it's...it's...I think that's right at the heart of it actually. I think he put his finger, back in 1949, on something extremely important, which is if you only know that, in other words, if somebody....if you were mending cars, and someone only showed you with a diagram labelled how to do a certain kind of carburettor that wasn't functioning properly, and then either a new carburettor comes in, or the whole principle on which the engine runs changes, but you don't understand, you're not inside, if you like, the concept of electricity or the combustion engine or whatever it is, because you don't know how, you only know that, then you're a very limited person. The person who is inside the concepts who understands the basic principles, can adapt. If there's a new theory of the atom for example, then the person who really understands all the previous theories is in the best position to understand the new one. The person who only learnt a formula, wouldn't have a clue what the fundamental precepts were anyway.

Melvyn Bragg : Mary Warnock?

Mary Warnock : Well I think that again, I deeply (indistinct) dichotomies, and I think "knowing how" and "knowing that" is a famously misleading dichotomy really, because you need to know both, and I think music education is a very good example of this. Obviously there's no point whatsoever in your learning the acoustics and other principles, friction and other things that make the sound of the violin, you also need to have a hands-on, the bow in one hand, and the fiddle in the other, and be able to to play the fiddle.

But as you learn to play, in most cases though not all, your understanding and appreciation and imaginative possibilities with this violin are increased by knowing something about both the theory and the history, of violin playing. So I think one does need to build a bridge between this huge dichotomy, and say that the best educated people are the people who know a bit of both.

Melvyn Bragg : I'm coming back...you were very.....it was.....it was like having a sort of....very useful to bring us back to Earth, as to what it really is in the National Curriculum, and that was extremely useful, but nevertheless, I perhaps am talking about the over heated drive that I read in reports from politicians or in newspapers or in speeches given about "We must catch up, we must get on, we must do this that and the other". Do you think that that, even though it hasn't entered the curriculum, or you say it hasn't anyway, is having an influence on the way people are thinking about schooling, about spending on schooling, and if so what place do things like History and the Arts have in schooling?

Ted Wragg : Well that's the danger. I mean the danger....I saw some signs of danger last year when the

government said that in order to meet our literacy and numeracy targets, primary schools....they didn't say that primary schools don't have to do the Arts, and don't have to do History and Geography and so on, what they said is that these won't be inspected in the same way, and you won't have to follow the detail, but you have to do them, but you don't have to follow the detail of what's laid down. Now I thought that if that had gone on, and it hasn't because in the new National Curriculum, starting next year, the requirements for those subjects are firmly written into the constitution, so to speak, I though that would have been very dangerous, because schools would wrongly, in some cases, in desperation, have gone down the numeracy and literacy path only, and what on Earth would children have hung their literacy and numeracy on? I mean the whole point about literacy and numeracy is that we hang it on our lives. In science for example, if you're numerate, it helps, because so much of science is to do with mathematics as well, in certain fields. So you've got to be able to hang this on other subjects as well, plus the other subjects are very important in their own rights. I mean this generation may have 30 or 40 years of healthy retirement. We talk about work, but the third age as it's often called, the age of healthy retirement, may well be for many of them, longer than their second age. It may be their longest age.

Melvyn Bragg : Mmmm. Do you think.....do you think, Mary Warnock, that the idea...going back to why we....the idea of education, is something that will set alight the economy, do you think it is..... ? I'm still trying to get at that, is the economy necessarily going to improve, because of the way people are educated between 5 and 16 particularly?

Mary Warnock : I think....I don't know, I'm not an economist, but I think the economy can improve only if there are more people who understand the possibilities of inventing things and the possibilities of selling what they invent, which is a....they need to understand rhetoric...how to talk, how to manipulate people, and all these are functions of education, I think, both knowing what you're doing and knowing how to sell it, to put is crudely, and I think that education is important to the improvement of the economy, but I do agree with Ted that we also need to have around a view of education, which is for pleasure, this is going back....

Melvyn Bragg : But isn't this the idea that you object to very much, the sort of 60s idea which can be traced back to John Dewer, but can be traced even further back to Rousseau that children are plants that need to be cultivated and pointed in the direction of, rather than taught, and you're worried about that?

Mary Warnock : No I don't like that at all (others laugh). I don't like this hothouse plants sitting round being watered and cultivated and finding things out for themselves. I do think that children both need and actually greatly enjoy a bit of competitive learning, and I don't like.....I'd hate to go back to the 50s and 60s in this century, where.....

Melvyn Bragg : Well I was sitting next to a teacher.....sorry.

Mary Warnock : .....the sort of Plowden view was a Rousseau-esque view.

Melvyn Bragg : I was sitting next to a teacher, yesterday, when I mean, I was having something to eat and she said that she'd been teaching in a school in Glasgow where the idea of "competitive" and "learning" both, particularly competitive, were regarded with horror.

Mary Warnock : Ohhh!

Ted Wragg : Well friendly competition is okay. I mean after all in sports for example, you have to learn to win and lose with grace. So competition in a friendly.....I mean I think killer competition is a different matter. If people are so dumbed down....erm in the 16th century in a book called the Colriatio Studiorum, I think it was, the Jesuit handbook, I think it was there that it first was raised the idea of having pairs of children competing with each other in the class all the time. So you pair children up to compete, I think that, nowadays would be seen as a bit hard nosed. But I think there's an element of competition that's fun that children enjoy, after all, you've only got to put a class into teams and provided there's nothing punitive if you don't do well, because some children don't know an awful lot, with the best will in the world, most children will enjoy that. But certainly one of the things that has become prominent is collaboration and working together, because if you take something like NASA, the American Space Agency, you've got the world's leading experts in rocket fuels and flight paths and everything you can conceive of, medicine and diet in space and they work together, a hundred thousand people, and that's a phenomenal achievement , but also....

Mary Warnock : Of course, this is something that is very much taught in science departments in universities now, that almost nobody works on his own, they work together, and that's a very important element, I think.

Ted Wragg : Well, it's true to say that no committee would have ever composed Beethoven's Ninth or whatever...

Melvyn Bragg : A committee wrote the bible.

Ted Wragg : Er well yes, I'm not saying committees can't be creative, I'm saying usually that creative things are done by individuals or small groups.

Melvyn Bragg : Not necessarily, I mean Beethoven wrote it, but it takes all those people to play it!

Ted Wragg : Yeah, but he wrote it, that's the point. Can you imagine the committee....?

Melvyn Bragg : Can you imagine it unplayed? (Mary laughs)

Ted Wragg : Can you imagine the university senate on which I sit, being asked to do something like that. I wouldn't give a university senate a free kick on the edge of the penalty area, because it would take two terms to decide who chairs the working party!

Melvyn Bragg : I can't think of a better ending than that, thank you very much (laughing) to Ted Wragg, thank you very much to Mary Warnock and thank you very much for listening.