

In our Time Programme 78  
*Evolutionary Psychology*

**Melvyn Bragg** : Hello there are those who believe that Richard Dawkins redefined human nature 1976 when he wrote in *The Selfish Gene* "They swarm in huge colonies, safe inside giant lumbering robots, sealed off from the outside world, communicating with it by tortuous and indirect routes manipulating it by remote control, they're in you and me, they created us body and mind, and their preservation is the ultimate rationale of our existence. They go by the name of genes, and we are their survival machines". Potent ideas like this have helped give birth to a new discipline called evolutionary psychology, it claims that all of human behaviour can be understood in terms of a single compulsion, can be traced back to it. We must sexually reproduce, so that our genes will live on. How has this idea developed, what can it tell us about how we behave? and above all can it be trusted?

With me to discuss the summits or pitfalls of evolutionary psychology is the philosopher Janet Radcliffe-Richards author of a new book "Human Nature After Darwin". We also have an evolutionary psychologist with us, Nicholas Humphrey, Professor of Psychology at the New School for Social Research in New York, and we're joined by Professor Steven Rose who's book of essays, edited with his wife Hilary Rose, is called "Alas Poor Darwin" arguments against evolutionary psychology, which indicate the way that he's of different persuasion.

Nicholas Humphrey, I've given a very broad definition of evolutionary psychology, can you identify its core beliefs?

**Nicholas Humphrey** : Yes well you say how is it that the idea has developed since that point it develops by not starting at that point which you read out from Richard Dawkins, that's one particular position about an important component of human nature but evolutionary psychology starts not by talking about genes but by talking about human nature, about the possibility and the fact - as we believe- the fact that there *is* such a thing as human nature which is pretty universal to human beings, disposes them to behave in many similar ways and similar circumstances and in ways which are constrained by the ways that they've evolved, that human nature came into being because - to caricature it - because our ancestors with those particular nature's were more successful than the competition in reproducing, but the *ways* by which you come to be successful in reproducing are of course extraordinary elaborate and subtle, you don't, it's not just a matter of having sex, you have to find a mate, you have to survive to mating age, you have to be able to look after your children, you have to be successful in society in order to get status and material goods and so on, and so success in all those different areas is what has contributed to the evolution of human nature.

The important thing which can...one of the important contributions of recent evolutionary psychology is to say that much of that selection for human nature took place in really rather recent times, in the last million and a half years or so, since we parted from chimpanzees, and that if we want to understand what human beings are like deep down we need to think about the environment in which they lived in the Savannah in Africa and in the years since they migrated out of Africa, and that world was very different from the world in which we now live, so that we come into present civilised societies with the burden - if you want to put it that way - but with the glories of our stone age past behind us, and we approach modern problems very often through the filter of a stone-age mind stone-age interpretation of it.

**Melvyn Bragg** : So would it be a misinterpretation to summarise your core belief of evolutionary psychology to say its core is near...was set million and a half years ago?

**Nicholas Humphrey** : Well it's a sliding thing, I mean you know, things...central characteristics of the human mind, like vision and memory and even consciousness possibly came into being much before that, but human beings are very different from chimpanzees, so something dramatic happened in the last 3-4 million years.

**Melvyn Bragg** : And that was the vital and essential different thing which is that the steer that we have as human beings and have had since - I'm just trying to get a handle on this before we move on - and you you think...you put aside the notion that Richard Dawkins idea that we're humans are survival machines for genes, you don't think that is particularly centrally relevant to evolutionary psychology?

**Nicholas Humphrey** : Well evolutionary psychology doesn't need to talk about genes, and in fact I've been an evolutionary psychologist for 30 years now without actually knowing much genetics or ever actually making use of some of the core principles of evolutionary genetics. Genetics has had an important input, particularly in

explaining how it is that certain sorts of behaviour, which would seem rather surprising from...if one was simply thinking about why they would be selected can in fact be selected given some of the peculiar ways in which selection operates on genes which pass as single units between individuals, so that, that kind of particulate inheritance has been an important source of information and insight into why humans...and how they've evolved in the ways they have.

**Melvyn Bragg** : Thank you. Janet Radcliffe-Richards, do you have anything to add to that definition of evolutionary psychology?

**Janet Radcliffe-Richards** : Not much, but the important thing about the subject as a whole is to realise that the basic principles of it as Nick said, are not about genes, they go right back to Darwin, who realised that as soon as animals developed consciousness and the ability to act and make choices the kinds of choices they made would be one of the main determinants of how they...how successful they were in evolution. If you were a sexual animal who happened to have no interest in sex, your lineage would not be very successful, if you were a female mammal averse to suckling you wouldn't do very well, so the idea is just that one's psychology from other animals as well as us, is an integral part of the understanding of why they survive, and what evolutionary psychology is, is just the general application of understanding principles of evolution to questions about why human psychology is the way it is.

**Melvyn Bragg** : Could you tell us what is new, if anything, about evolutionary psychology what's appeared in the last 30-40 years?

**Janet Radcliffe-Richards** : One of the most interesting things is the slant it's brought to the debate about sex differences. If you go back to the traditional view about men and women it was that God had created them radically different, and people just took that for granted, then along came people like John Stewart Mill in the 19th century who said "we cannot possibly tell that men and women are radically different by nature, because they've been in systematically different environments all the time", and he was quite right, you can't just look at something as complex as a human being and say "this is the thing you were born with and this is the bit that comes from the environment", because they're so mixed up together in the finished product.

What evolutionary psychology does in this context is say there's another direction from which you can begin to approach this subject, you can say "men and women are very strikingly different in one respect which is their reproductive capacities. A female reproducing flat out can only produce about one child a year. A male who is sufficiently successful and can charm enough females can produce hundreds of children a year", and the idea is - and notice that this doesn't yet bring in genes even - this says that you would expect these two, psychologically to evolve different temperaments because different temperaments would be successful mating strategies.

So it gives you a different way to approach the question, instead of saying just let's look at them now and try and disentangle the two, we can say what would you expect a priori for them to be evolutionarily successful.

**Melvyn Bragg** : Steven Rose, could I - just to complete the triangle - could I ask you where you think the origin and definition of evolutionary psychology lies? I don't know whether it's quite clear enough for listeners yet, so if we could really clarify it as much as possible, then move on.

**Steven Rose** : Let me try. Firstly to go back to Richard Dawkins in your quote. Richard notoriously referred to evolutionary psychology as "rebranded sociobiology" that is a theory of the ways in which genes affect human and other animal behaviour which was developed in the 1970s, so it has a lineage which goes back to that, and it's not quite the lineage I think which either Janet or Nick were talking about, I mean I think one of the problems of evolutionary psychology is precisely what Nick said, he didn't know much about genetics, and I think that many of the people who now call themselves evolutionary psychologists do come from philosophy or psychology because they're rather happy with not knowing the biology which actually underpins many of these ideas. The common core of course is that humans are an evolved species. Whether we have a nature as such - and if we can actually divorce that nature and say it's been unchanged ever since a million years ago, the paleolithic the stone age or whatever else it might be, which is what evolutionary psychology calls the environment of evolutionary adaptation, seems to me to be much more doubtful.

I think that the core of evolutionary psychology is indeed the argument that humans are evolved, they have

developed certain characteristics as males and females during this stone age period and nothing has changed since.

The second core feature of evolutionary psychology as expressed by people like Steven Pinker, and others, is that there is an architecture to the human mind - that is the mind is locked into certain modules which develop innately, they're there at birth, and they just grow larger, people have claimed this is like a Swiss army knife, that we have all these modules inside the mind, which you can open up and lock into particular places, and these are also evolved in the stone age period.

Common ground is that we've evolved, but the...where I think that we would differ from the claims made by evolutionary psychologist is to insist that in order to understand humans, you actually have to understand us as evolved, as developed, as social, cultural, and technological organisms, and societies, not just as individuals, who haven't been changed since the stone age, and I think that's part of the core difference, and that's partly I think because the claims of evolutionary psychology ignore what we know, both about genetics and about evolutionary processes and about development to say nothing of what they ignore about what social scientists tell us about the way societies are.

**Melvyn Bragg** : So what you're saying is that the quotation I read out at the top from Steven...er from sorry...

**Steven Rose** : Richard Dawkins.

**Melvyn Bragg** : ...Richard Dawkins *does* have a relevance. What do you say to his remark which - I can see Janet and Nick want to get in very strongly, but I'm going to ask Steven a second question - when Dawkins says we evolved "body and mind" which sounds very seductive, it sounds sensible, it even sounds logical, what's your reaction to that?

**Steven Rose** : Well, I mean I think the core problem of this - and it is a quotation that some of you have used against Richard in the past - is the claim that there is a direct line between genes and mental processes in this sort of way, it ignores the business of development, and it assumes that the Telos, the purpose of human existence is simply - we exist as a diversion, between one gene, and that gene's successors, and this seems to me fundamentally to put eggs before chickens, and and I would rather put chickens before eggs, in this context.

**Melvyn Bragg** : Janet Radcliffe-Richards, you wanted to get in there?

**Janet Radcliffe-Richards** : You have to distinguish between evolutionary psychology as a direction of enquiry, which is what I think it's most important as, and the particular theories held by particular evolutionary psychologists. Now this is a new area and you expect a lot of dispute within the discipline. So to defend the discipline is not to defend any particular theory within it.

**Steven Rose** : Come on! We can't simply do that, I mean what one goes by...

**Janet Radcliffe-Richards** : I'm not *simply* doing it.

**Steven Rose** : ...no but one goes by the core writers, and they are Pinker, they're Cosmedes and Tubis, they are Daley and Wilson, they are Helena Cronin, you look at what they write and you have in fact I think to build on those claims. To say that there is some....

**Janet Radcliffe-Richards** : But...

**Nicholas Humphrey** : But Steven this is like...

**Steven Rose** : ...abstract, some abstract...

**Janet Radcliffe-Richards** : I'm not saying...

(all interject at once)

**Melvyn Bragg** : Excuse me, excuse me, one at a time, let him finish, otherwise we can't hear him, then you've

got...there's bags of time, will you just finish?

**Steven Rose** : ...right, okay, to say that there's some abstract concept of evolutionary psychology, to say that it would be desirable to understand human's as evolved creatures, anyone, any biologist, and most others would actually accept that. But what one is then looking at, is what the actual claims are.

**Melvyn Bragg** : Janet.

**Janet Radcliffe-Richards** : Of course you have to discuss the actual claims, because evolutionary psychology doesn't become a plausible discipline until some of the claims start being plausible. So if Nick for instance, wants to defend some particular claims, those are the ones we should discuss, rather than just evolutionary psychologists as a group, who are of course disagreeing among themselves. I do think that evolutionary psychologists would want to say that there was now enough evidence to take the core of the subject to take the direction of approach as valuable, this is a useful set of questions to ask.

**Melvyn Bragg** : Nick, you were trying to get in. Nicholas Humphrey.

**Nicholas Humphrey** : Well, it seemed to me what you were doing was that if you'd asked William Hague to define the core beliefs of the Labour Party and of course what you got was a caricature, with his being able to point to certain people who've made some rather surprising and I think some scientific claims about the origins of the human mind and so on, nonetheless, ideas which we should entertain because they're interesting in their own right, but which there's been...have on the whole not been not been taken seriously by the main core of those who now contribute to the development of evolutionary psychology, in the journals and the conferences and so on, which Steven Rose never attends. I mean he reads the pop literature, writes books attacking the pop literature, but actually never bothers to get to grips with what people are really hammering out at the cutting edge of the science involved here. There's a lot of...

**Melvyn Bragg** : Actually, he said, a view that you didn't know a great deal about the science in terms of the genes, so..

**Nicholas Humphrey** : ..well, it's a...I don't think that knowing population genetics is necessary, I mean it's one essential part of understanding the evolutionary history of the human mind. But there are a lot of other approaches, through cognitive psychology, through embryology, through social psychology, for that matter. To come back to Janet's point, Darwin himself was the first evolutionary psychologist. In the *Origin of Species* he said, "psychology will be placed on a new foundation" and over the next 25 years he proceeded to place it on a new foundation, *The Descent of Man* is full of the most wonderful speculations about human nature and how it came into being, how it evolved from primitive ancestors. He discusses music, sex, religion, politics, and he did it brilliantly without knowing anything about genes.

The invitation to redevelop a new form of psychology was not taken up it..the social sciences took over and rejected biological thinking for the next 80 years or so. It wasn't until the second world war or soon afterwards that some new thinking which did come out genetics began to breathe new life into speculation about human evolution, and the subject was reenlivened, but it's been reenlivened in a whole lot of different ways, and there are many different approaches converging and competing and clashing in fertile ways to try and address fascinating problems about the nature of human beings.

Steven Rose wants to put a kind of gag on it. He wants certain sorts of research not to be pursued. He's...he regards it...he says that this is "culturally pernicious", most of the work in evolutionary psychology is culturally pernicious, if that's not asking us to put a gag on it, what is?

**Melvyn Bragg** : Well he can answer for himself.

**Steven Rose** : He *will* answer for himself, indeed. I've never wanted to put a gag on anything, certainly not in a programme like In Our Time! I've never put a gag on you Nick, even when you intervened at the launch party that we had for *Alas Poor Darwin*, when you were allowed as much time to speak, as anyone else!

But the point is this, that I *do* regard the claims about, as it were, the innate structure of the human mind and the

unchanging nature of human nature back from the stone age period as pernicious in a variety of ways. Now let me finish for a moment.

But you have your history wrong. Firstly, it is quite untrue to suggest that social science ignored Darwin for the first part of the century, they were very interested in Darwin.

Secondly, I think one should go back to Darwin himself, and point out that Darwin said "great is the power of steady misrepresentation", of the people who insisted that they understood his theory better than he did himself, and I think that some of the fundamentalist Darwinians that we have today, certainly fall into the category that Darwin would have regarded as misrepresenting him in this context.

I don't think it's good enough to do this peculiar thing of saying the people before, the sociobiologists or these quotes "pop evolutionary psychologists" are wrong but we've got it right now.

**That's *not* the way that science proceeds**, and simply to dismiss the others on the grounds that you guys who are at your private conferences are doing the real work, and ignoring the main claims that are being made, if all that is being said is that we are evolved, and in order to understand what it is to be human we have to understand our evolutionary and our psychology, that would be nice, but that is *not* all that is being said.

**Melvyn Bragg** : Janet, would you like to come in now?

**Janet Radcliffe-Richards** : I think the pop evolutionary psychologists are putting forward highly plausible theories and since..because most of them are very accurately representing the kind of thing that goes on among the professional, so this is not about private conferences. I'm a philosopher, I came to this from outside via the pop people, so I didn't get any of my ideas from Nick's private conferences, this struck me as an extremely interesting line of enquiry, and I think instead of just trying to make a generalisation about what various numbers of people say, we should actually engage with particular issues and see how those work out, because it's a very boring kind of meta-level dispute for us to say "Dawkins meant this. Dawkins didn't mean that", let's talk about the substance.

**Melvyn Bragg** : Nick and then Steven, and then I'm going to talk...push it on a bit, you first Nick.

**Nicholas Humphrey** : Yes , well I agree, but it's...when Steven says that he's referring to the mainstream stuff and then comes up with an example of it, as that human nature has been unchanged since a million years ago, there is no one, not even the pop psychologists who make that kind of claim...

**Janet Radcliffe-Richards** : Yes.

**Nicholas Humphrey** : ....this is a claim made by people like yourself and (indistinct) and others, in order to lambast a position which in fact doesn't exist. Nobody, nobody who understands the principles of evolutionary psychology even in the most fundamentalist form could make that claim. Evolution occurs rather quickly especially under the kind of positive feedback which occurs in the societies and under the cultures which human beings have lived in for the last million years. Much of the interest now is what happened in the last 20-30, 000 years.

I've made a claim quite recently - I mean I'm not sure most people would agree with it - that human language itself has evolved only in the last 30, 000 years . Certainly many of the things which are most important about ...defining what we value about human beings today, are very new, but they're nonetheless...they've evolved under the constraints of natural selection.

**Melvyn Bragg** : Steven Rose.

**Steven Rose** : Of course that's entirely indisputable, and it's something I'm glad you're saying that, because it's something I'd would be absolutely be very happy to accept, but it is *not* what you're colleagues are saying. I'm sorry, Helena Cronin says specifically that human nature has been unchanged since the stone age, what she says is that human nature is unchanged, fixed and unchanging, but the human behaviour as manifested - if one can make this difference between human nature and human behaviour - *has* changed in that period of time.

The crucial thing is this, it seems to me, we know very little about how the stone...our ancestors in the stone aged lived, we have a few bits of bones a few artefacts, a few cave paintings, but on that to speculate as Geoffrey Miller does in his book on the...on sex, *The Mating Mind*, about how a teenage Neander...er stone age adolescent would have thought about her mother's live in lover or whether there was homosexuality or serial monogamy, in the stone age, seems to me to be fatuous. If we don't know those things, we cannot draw conclusions based on that, on how we

are and how we are to live now. What we do know?

**Nicholas Humphrey** : Just...a definition of the stone age...

**Steven Rose** : No just...

**Nicholas Humphrey** : ...I think we must get this straight...

**Steven Rose** : ...no, no, sorry...

**Nicholas Humphrey** : ...the stone age ended 10, 000 years ago, not a million years ago.

**Steven Rose** : No, no of course, I'm talking about a period stretching back between 100 and 600, 000 years ago, when humans were...when identifiably Homo Sapiens began to evolve. We agree that there have been very rapid periods of evolutionary change since that time, and that seem to me to be the crucial thing. If we don't know that, if we can only in fact infer the past on the basis of our present society, let's look at our present societies and how we behave. By all means let's actually understand the evolutionary constraints but let's, as it were, build into those the huge complexities that the social sciences and modern developmental psychology give us.

**Melvyn Bragg** : Can we come to this business...? Can we start this next chapter with the phrase "stone age minds in a space age world", it's perhaps too crude, but it's a useful headline. Now what does that mean to you? Does it mean much or nothing Janet?

**Janet Radcliffe-Richards** : I think...well to me it's a slightly misleading way of putting the whole thing, because it rather implies that we were evolved to suit the stone age, and we maybe very uncomfortable now, and one of the important things about understanding Darwinian evolution is that it never had any intention of making creatures happy or contented or harmonious, that may have come about, and one of the interesting things about the genetic input into evolutionary psychology is that begins to give us a better understanding of how it came about, but I don't think we should mistake this for implying that everybody was happy in the stone age and we should go back to that. As for the question of how much minds have changed since the stone age, but I think it's entirely possible that they have.

**Melvyn Bragg** : Well, but I'd like to just pursue this a bit further if I could, Nick, there was something that you said near the top of this programme, if there wasn't you will certainly correct me, which did imply that a very very long time ago - Steven as referred to one or two other people - various things were put in place which are still in place and which are still overwhelmingly powerful and are great determinants of the way we behave in major, major manners today. Now they were put in place then, and these are the massive great, let's say the four pillars, structures come and go since then, but there they are. Now what are they and how were they put in place and why haven't they changed when we'd have language, culture goodness knows what else? Can we do those one at a time?

**Nicholas Humphrey** : Yes, no you're not wrong, I mean I think that many central features of human nature are adapted to a style of life which was..persisted for a very long time, from let's say the last million years if one wants, to use Steven's time period, and which has..is in an environment which is no longer present, for example to give some very ..some obvious things about...which manifest differences between modern contemporary civilisation and the kind of world in which our ancestors live, there was probably not monogamous marriage or the institution of marriage, most men would not have had children, the children would have been born to a few successful males, therefore the kind of male competition which was present for that long period of evolution has stamped its mark on male, and for that matter female psychology, almost certainly. In the area of health disease, there was almost..there was very little infectious disease for example, therefore some of the ..our attitudes towards food and to cleanliness and hygiene and so on, again are inappropriate to a situation in which flu epidemics can race around the world and take us by surprise. We lived in small relatively integrated villages in which strangers would have been unusual and maybe objects of suspicion .

Some of the attitudes which now manifest themselves as xenophobia almost certainly have those origins in those days. For that matter we probably lived in a world in which there were other species of human beings, looking and behaving very much like ourselves, not only the Neanderthals but it's reckoned that 100-200, 000 years ago there

were probably 13 species of human beings living in Europe. It was essential to distinguish yourself, your own kind for these other kinds of human beings, we still have the legacy of that in the xenophobia and stereotyping and the innate racism which we see in little children.

It's an extraordinary and rather frightening fact that children seem to be born racists they have essentialist ideas about what it is to be part of their own group, based on skin colour and looks, and other features that we no longer regard as being of any biological importance, but children from the age of about 3 months to about 5 years home in on these and they have to be educated out of them. That's a legacy of our stone age past if you like, to take...I could run through more and more examples, but let's take the case of violence for example.

We lived in a world in which when tempers flared and even homicidal tendencies erupted it wouldn't usually have led to death, because our means of killing were very much more limited, guns did not exist, that's a crucial difference between our present world and the one in which we evolved.

**Melvyn Bragg :** I know you've got more to say, because I've read what you have said on the subject, but that's a very good outline. Now, Steven Rose, how far do you go along with that, and how far do you think it has been superseded or added to or completely changed by things like the invention of language and so on and so forth?

**Steven Rose :** Well it clearly has been changed enormously by the invention of language, we would all agree about that. I mean Nick's speculations about the past are...I don't wish to dispute at this moment, they may or may not be plausible, I'm very surprised at his claim about the innate racism of children, because there's a lot of evidence that goes in quite different directions so far as that's concerned. But, this is not the point. The point about a science, is that it has to be of any utility - it has to make predictions. It has to be able to say under what circumstances will X happen, under what circumstances will Y happen, and I cannot see any of the claims that are being made of the sort that Nick is describing which help us understand and make predictions about the present situation, either about individuals in the way that we live in our lives or about those great societal issues which confront us at the moment. We may live in a society in which as it were, sort of strangers were alien in the past, it doesn't help us explain, or as it were, deal with the issues of ethnic conflict in Kosovo, it doesn't help us actually understand the racism of our present society, and certainly doesn't help us as it were, approach means to actually sort of rectify or change those things, and in all those ways, I think that as a set of scientific claims it becomes at best a set of speculations, which are okay for philosophers, but don't help either scientists or practical politicians, or social scientists. I think it, as it were, is confined to a tiny group of people who are actually sort of enjoying sort of getting off on a set of wild speculations.

**Melvyn Bragg :** We have a philosopher here, Janet Radcliffe-Richards what's your response to that?

**Janet Radcliffe-Richards :** It's ....from the point of view of making predictions, science certainly has to make predictions. The social sciences are notoriously difficult, the question is what alternative view of things has made better predictions?.

Now there are some interesting questions here, if we go back to the male and female issue again, which incidentally I think is enormously more important than the racial issue, because as far as I know evolutionary psychology has nothing to say about race at the moment.

**Steven Rose :** That's true. That's absolutely true, and a very important distinction between that and sociobiology in the past, I agree entirely.

**Janet Radcliffe-Richards :** Yes, well even sociobiology...well anyway, the male and female differences for instance. We simply don't know looking at men and women how much are the cultural background and how much is a difference of nature that goes..lies underneath it. We can experiment as much as possible as we have been doing since feminism, by trying to get the environment more and more similar so that women have opportunities, we find that differences persist.

What's the explanation? It might be an evolutionary difference, it might be more subtle things in the environment, because we know how very subtle social pressures can be. Now if you have evolutionary psychology coming in and saying "look at it from a different direction", you would expect men and women, a priori to be different in these ways if there hasn't been much change evolutionarily recently, do these differences which evolution would

predict, coincide with what we actually see?

Now there's a very interesting case in the context of feminism, because the traditional feminist view was that women went for certain kinds of men, in particular - high status men, because they were economically dependent on men because they'd been forced into this. Now it's true they had been forced into it. So we just didn't know. But evolutionary psychologists, would predict that women would go on wanting high status men even when they became independent, and if you look at the sociological patterns now, you find that more and more women who've become wealthy and independent, can't find men who are of higher status than them, because they've overtaken them, and so you get the, I believe it's the "Ally McBeal" situation, that ...I've never seen that.

**Melvyn Bragg** : Steven Rose, then I want to come back to Nick.

**Steven Rose** : That prediction is an interesting prediction, and it's been explored by anthropologists, and one of the interesting features in one of the best known of the evolutionary psychology books is indeed the evidence from anthropologists that some of the tribes in non-industrial societies, the peoples in non-industrial societies, that was the case, about 20-30 years ago, they then go back 30 years later, revisit the same populations and discover that as the women had become more economically self sufficient they no longer go for older men, high status men, they prefer men closer to their own age, and probably therefore, in more conventional terms, more sexually attractive,

and that what this indicates is the lability(?) of the situation that we're facing, and it indicates that predictions of that sort are so universalistic that they are not borne out when you look at the rapidly changing societies in which we live.

**Melvyn Bragg** : Can I ask you, Nicholas Humphrey, we have this which you described from your researches from your thinking and from your point of view, what was those pillars that were in place, I would love to know - and then you talked about language earlier on - I'd love to know, what ...whether you think the mind can be changed in anyway that challenged the rootedness of the earlier implants if you like, about the invention of language and the fact that we learn from culture and that we...the culture of law whatever, the several cultures that we encounter quite early on, whether these can be as powerful or whether they're just sort of tides broken on the sea wall of this deep past?

**Nicholas Humphrey** : Well I think it's...one can't...there's no universal answer to that. Of course culture may have dramatic effects in changing the nature of human beings and well..I should...if Helena wants to distinguish between the nature and the behaviour, well let's...the way people are can be changed dramatically by culture, and has been. It's..it could..we also have some varying elements even from animals, of the way in which culture can change individuals. It can even change an animal which shows no evidence of consciousness into one which does. There's some remarkable new evidence from chimpanzees, which in the wilds show no evidence of consciousness at all, or self reflection. If you bring them up in a human family in which they're expected to be conscious, they're treated like little conscious beings, they actually develop something which looks much more like human consciousness.

So even a central feature of what it is to be ourselves as that, could be in large part a cultural invention imposed on our genetic constitution. But genes have always worked in combination with culture and so this isn't in any...this isn't an argument against the way evolutionary psychology wants to think about human beings. But it's clearly relevant to I think, the issue you're getting at is whether or not we're stuck with the stone age mind...

**Melvyn Bragg** : Yes.

**Nicholas Humphrey** : ...and that we're just going to have to accommodate to it and work our way round it or whether we can expect to change the nature of minds, I think that we'd be very well advised to be pessimistic about that. I think there are certain aspects of human beings which are going to be very difficult to change, as it were, by rewriting the blueprint for what it is to be human. We need to work with the..what we've got in order to make the best of it, and that's of course, the way in which....in fact it's..I mean again and again it's the best and most creative thing to do is to recognise the constraints and those try and create what you want out of them. Any poet or artist will know that given complete freedom you have..all the possibility of creativity is taken away. We should start just like a poet does with the metric and the rhythm and so on, of human nature and on ..a poet can say anything in verse



which is often better said because he starts with a structure which which constrains...

**Melvyn Bragg** : Because of the sonnets narrow soul, yes.

**Nicholas Humphrey** : ...and I think that in thinking about human beings and the kind of societies we want we should be poets in just that sense.

**Melvyn Bragg** : Steven Rose and then...

**Steven Rose** : Absolutely, the constraints are about the freedom of necessity and the constraints are very complicated ones and they include as it were, our nature as humans in the sense that we live for a certain period of time with the particular sorts of heights, we construct societies which actually sort of go to shape those, that's clearly the case, but I think that "the stone age mind in the space age society" is a nice glib phrase, and I'm reminded very much of the claims back in the 1950s, that because the human brain had evolved in a particular sort of way, we had what was called a triune, a reptilian brain, a mammalian brain, a human brain on top of that, and it's like arguing that we think by smelling, because the cerebral cortex has evolved from the olfactory bulb, which was originally designed just to produce...the capacity to detect and respond to odours, in that sort of way. We transform ourselves, and we transform ourselves within the constraints that are given by our biology.

Nick and I would actually agree about that, and I suspect Janet would as well...

**Janet Radcliffe-Richards** : Yes.

**Steven Rose** : Where we disagree I think is where we're going to place those constraints and the degree of flexibility that there is there. If Nick is pessimistic, I'm also pessimistic but not only because of our evolutionary history, because of the societies that we've created around us with their immense capacity for self destruction.

**Melvyn Bragg** : Janet.

**Janet Radcliffe-Richards** : We're coming towards the end of the time and there's one crucial issue we haven't raised yet and this is the idea that these ideas are pernicious, culturally pernicious, that they've underpinned all kinds of corrupt politics and suchlike, and we've got to tackle that because a great many people think as a matter of principle that they must reject evolutionary psychology because it has these terrible implications, so we have to address the question of whether the implications are what they are thought to be, as well as the question of whether it's true.

Now we'd want to take this up from this point of view, say even if evolutionary psychology is right, and I think it's certainly on the right track, it does not have the implications that are usually attributed to it by its opponents, that is it has no....suppose we're right about women and men suppose this is what they are like by nature, that implies nothing at all about how we should construct our society, between women and men, there's no direct inference whatever from claims about human nature to claims about how we should construct the society, and this is a very common mistake.

**Melvyn Bragg** : Steven.

**Steven Rose** : Well, what you're saying is that one shouldn't deduce an "ought" from an "is", but I'm afraid that is what evolutionary psychologist whom I read, and they include those who actually draw radical conclusions and those who draw conservative conclusions from evolutionary psychology, do persistently, and that is there are persistent claims which are derived from the assumptions of evolutionary psychology about for example whether we should construct a welfare state, how we should live, what are the relationships between men and women and so on. There is also the persistent claim, which comes from the chief exponents of evolutionary psychology a, that these..what are the sciences, the disciplines which come from social science or even art, culture, music, philosophy and so on, should in some sense be subservient to the claims which are being made by the geneticists and the evolutionists, and that's true, you will find that in virtually every one of the - what you persist in calling the pop books, but are essentially the books that set out the central agendas of evolutionary psychology.

**Melvyn Bragg** : Nick.

**Nicholas Humphrey** : But Steven, who are you reading?

**Janet Radcliffe-Richards** : Indeed.

**Nicholas Humphrey** : I mean you...claims about the welfare state, Matt Ridley I imagine is who you are referring to, a very good writer, but a journalist, and who makes no claims to be anything other than a science writer and a journalist. He is not a scientist or someone who would claim to have original contributions to this subject. If you go to the people who are actually creating the scientific work and the theories, you just won't find these sorts of claims.

**Steven Rose** : But you're doing it again, and that is you're saying there's this core of evolutionary psychology where these people who are grubbing around somewhere around writing little research papers, but if one actually looks at the...

**Janet Radcliffe-Richards** :No, no.

**Steven Rose** : ...synthetic books which are coming out from them, I mustn't take any notice of them because they are written by journalists or they're written by people who are old, or they're written by people who have been bypassed by the new work, and yet those are the ones which are setting out the claims, and we wrote the colleagues who actually assembled to produce the edited collection called *Alas Poor Darwin*, the sensible thing to do to us was to take on the central claims which were being made by those authors, including cognitive psychologists like Steven Pinker, including animal psychologists Daley and Wilson, psychologists like Cosmedes and Toobey, and Richard Dawkins himself, and if you actually say that these are not the people who count, there is some hidden thing which is going on..

**Nicholas Humphrey** : But again you pick and choose Steven..

**Janet Radcliffe-Richards** : It's not...

**Nicholas Humphrey** : . you don't take on Peter Singer for example, who's written a recent book about the way in which evolutionary psychology supports what he calls a "Darwinian left"...

**Steven Rose** : I do know that...

**Nicholas Humphrey** : ..and a welfare state.

**Steven Rose** : ..and that's why I pointed...that's why I was accepting Janet's point that in fact evolutionary psychologists produce claims about the sort of society we ought to live, which come from a variety of different perspectives, but that they infer "oughts" from "is"s seems to me to be unequivocally the case for all of them.

**Melvyn Bragg** : Janet.

**Janet Radcliffe-Richards** : Well Peter Singer certainly doesn't do that, I haven't seen a single one who does, I don't know who these people are...

**Steven Rose** : I've just cited them to you.

**Janet Radcliffe-Richards** : ...but even if..well, yes but I've read them too, and I've...

**Steven Rose** : And so you've not read Steven Pinker's claims about the sort of society we ought to have about the welfare state...

**Janet Radcliffe-Richards** : ...actually no I haven't read...I haven't read that, but..look yes..

**Steven Rose** : you've not read E. L. Wilson's book on conciliation which makes those claims? Matt Ridley -Nick wants to call a journalist at this particular stage, Matt must answer for himself on this issue - but I do think, as it

were what you're doing, is saying there are all these people whom we don't count, but somehow there are you and me, some private people somewhere who not saying these things and they are doing the real work. But you have not told us what the real work is.

**Janet Radcliffe-Richards** : The import....well I'm about to say, the real question here, supposing all these people say all the things you accuse them of, they are evolutionary psychologists, if you're right they are inferring certain political conclusions. I would want to say even if they're right about the evolutionary psychology, we can challenge them about inferring those political conclusions and I would want to see the argument laid out. They would say for instance, "men and women are different by nature, therefore we should have this kind of society", and would want to know what premise they put into the middle to reach that conclusion. Now I think if you find any of them...if they reach a conclusion there must be an implicit premise about the way things ought to be or the kind of things we do, and if they get that...if they suppress that premise so we can't see it, what we need to do is challenge there inference from the premise to the conclusion and not say that because we don't like their conclusion, we have to challenge what they say about evolutionary psychology, this is most important.

**Nicholas Humphrey** : But there's also some of the conclusions, which in fact I think you have to allow are valid ones...

**Janet Radcliffe-Richards** : Not on their own.

**Nicholas Humphrey** : One of the claims of people who write in this area, is that we'll be making a mistake if we think we can direct society in ways which in fact will be resisted by some...aspects of human nature.

**Steven Rose** : Indeed, that's what Wilson says precisely about the differences between men and women, and making a more gender egalitarian society.

**Nicholas Humphrey** : Yes, yes, and the caricature...if ..you know..

**Janet Radcliffe-Richards** : But that is true.

**Nicholas Humphrey** : ...and if...

**Janet Radcliffe-Richards** : That is true.

**Nicholas Humphrey** : ...everybody says it will be awfully nice if, under the influence of some new political theory, people could develop wings and fly, we could say to them "Well you know, nice idea but it's not going to work", and in certain areas of social policy we could make the same kind of claim, these..or goal...we have to some extent limit our goals and adapt our goals to what we expect will work, given the kind of people we are.

**Melvyn Bragg** : Well what I'm going to do is something that I don't do usually in these programmes, I think this discussion as been so heated and interesting that listeners will want to follow up, so I'm going to tell them some of the books you've written.

Nicholas Humphrey's written...his latest book is called "Soul Searching: Human Nature and Supernatural Belief", Janet Radcliffe-Richards new book is called "Human Nature After Darwin", Steven Rose with his wife Hilary has edited a book called "Alas Poor Darwin : Arguments against evolutionary psychology".

I wish we had a lot more time, thank you , thanks for listening.

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