

GRANO Speakers Series

MATT RIDLEY

NOVEMBER 11 2011

“The Rational Optimist”

Matt Ridley: I'm going to start on a down note, because I am from Europe. The Euro, as you may have noticed, is causing a little local difficulty. It's doing exactly the opposite of what it was intended to do. It was intended to promote prosperity and political harmony. It seems to be doing the opposite. I feel a bit like Woody Allen who said that, "Mankind stands at a crossroads. One path leads to despair and utter hopelessness; the other to total extinction. Let us pray we have the wisdom to make the right choice."

In other words, though there are two options – I'll come to them in a second – I'm not sure either of them are all that appealing. The crisis was containable but we've blown it with poor leadership. Back in '09, it could have been nipped in the bud. It's no good crying over spilled milk but it's clear that Europe is not an optimal currency area without a lender of last resort, no fiscal convergence, no central borrowing or the assumption of debts by a federal authority. It was always going to be a free ride as charter to give, as it were, the Greeks German interest rates.

Europe has, of course, been great for Germany. It's given them Greek exchange rates, which means that they can export all over the world. But it's terribly unbalanced and something has got to give. What now? Excess debt usually leads to default and devaluation – this is what has happened many times in the past. It happened in Argentina not that long ago and they started again very successfully. Britain used to do it to Italians in the Middle Ages. English kings used to bankrupt Italian bankers regularly, by defaulting. There's a good tradition of sovereign default.

The problem is if you default and devalue now, as Greece and Italy might do coming out of the Euro, the contagion would be pretty terrifying and the effect on French banks could be very frightening indeed. Everybody would be trying to re-denominate everything into Deutschmarks or whatever was left as a strong currency. So I don't

think one should underestimate the danger of that path. That path is not so easily available from within a single currency.

The alternative, therefore, that is left for countries like Greece is deflation and depression. In other words, austerity is forced on these countries and the question is whether that is politically acceptable or whether at some point the pot boils over. I don't know which of those is going to happen or how it's going to be managed. It's possible that politics may trump economics and we will find fudge after fudge to keep the show on the road for a bit, but it does feel as if Europe is not going to enjoy very good economic times in the years ahead.

I think the International Monetary Fund is bound to be involved somehow in bailing it out. In some sense, the solution is going to have to come from China because that's where the money is. But as Jin Liqun, of China's sovereign-wealth fund said when he was in Europe last week, looking around at Gauloises-smoking, cappuccino-sipping Europeans on pavement sidewalks, "The labour laws induce sloth and indolence rather than hard work. The incentive system is totally out of whack." So it's not easy to see what the solution is. And we in the U.K. are going to get dragged down with it because it's our biggest export market.

So why am I an optimist? Things don't sound very good, do they? I'll tell you why. For a start, this year alone we've seen Libya freed from tyranny. Isn't that rather wonderful? We've seen other Arab countries coming out of that. I've lived in my lifetime to see the Eastern European countries freed from tyranny, something I never thought I'd see, certainly not without a shot fired. Some remarkably good things happen and we sometimes don't notice them. We only notice the bad things. But it's more than that.

I think that globally the world is still in pretty good shape and the process by which we've been improving living standards is still working. In fact, it's about to accelerate. After all, the world as a whole is not in debt. Even Goldman Sachs hasn't worked out how to arrange a loan from Mars yet, and India, China and Brazil are having a tremendous time.

So is Africa.

Africa is experiencing double-digit, Asian-tiger style economic growth at the moment. That's amazing, because throughout the '80s and '90s it didn't; it wasn't sharing in the prosperity we were getting and it's

rather wonderful to be living in a world where the poorest people are beginning to experience some of the benefits of economic growth. Innovation continues, as it did in the 1930s, for example, when a lot of new technologies began to appear.

We've been here before. I'm very influenced by the fact that I became a teenager in 1971: a really bad year to become a teenager because the population explosion was unstoppable; famine was inevitable; a cancer epidemic caused by chemicals was going to shorten my life; the oil was running out; the desert was advancing; economic growth was ceasing; communism was winning; acid rain would destroy forests; the Ebola virus and swine flu were going to cause pandemics; my sperm counts were falling and the nuclear winter would finish me off.

Instead, in the 50 years of my life – 53, to be precise – despite a doubling of human numbers on the planet the income of the average citizen of earth in real terms has trebled. That's an amazing number when you think about it. His life span is up by 30%, on average, all around the world. Child mortality, the greatest measure of misery anyone can think of, is down by two thirds and poverty is retreating and has been retreating rapidly now for 20 or 30 years.

Not only are we better off, we're also happier, healthier, cleaner, cleverer, kinder, freer, more peaceful and more equal. I'll run through those, actually, and make my case. Healthier: we're defeating premature mortality. Even cancer is beginning to give, if you look at it in age-adjusted terms. Obviously, because we are living longer we're getting more cancer but if you adjust for age the graph is beginning to turn down. Heart disease has been in a plummet now for nearly a decade.

We're happier – well, it's hard to prove that and we still manage to find misery if we try hard enough. But there is a general correlation between wealth and happiness, both within countries, between countries and within lifetimes. We used to think there wasn't but it's now clear that there is. It's not linear and it's not perfect and it's possible to be extremely rich and extremely unhappy, but then that cheers the rest of us up, so that's alright.

We're cleaner. The city air we all breathe is infinitely cleaner than it was a generation or two ago. One of my favourite statistics is that today, a modern Ford mustang driving at 70 miles an hour on the freeway emits fewer hydrocarbon emissions than a 1970 Ford Mustang sitting parked on a driveway with the engine off.

We're cleverer: not only are we getting better educated all the time but IQ scores are creeping up by about three points a decade. Nobody quite knows why. It's called the Flynn effect; it seems to be something to do with our reasoning ability improving because of better communication. We're kinder and we're giving more to charity as a proportion of our income, generally, in most countries. We're freer; the number of autocracies keeps going down and the number of democracies keeps going up. The Dictators' Club could meet in a room a lot smaller than this now.

We're more peaceful. There's an extraordinary new book by Steven Pinker, a great Canadian, called *The Better Angels of our Nature*, which is about the decline of violence over the last few centuries. He shows with remarkable statistics that not only are you 35% less likely to be a victim of homicide in Europe today than in the Middle Ages, but that the 2000s, the decade just ended, was the decade with the least number of deaths in warfare in human history. It doesn't feel like that to Britons because we had Afghanistan and Iraq in that decade, but globally that is true. It's worth remembering that on Remembrance Day.

We are more equal. The Gini coefficient, which measures human inequality, is going down. It has to be because the poor countries are getting rich faster than the rich countries are getting rich. Inequality could be going up within countries but between countries it's going down. Therefore, for the nation as a whole the middle is bulging at the expense of the extremes.

What I set out to do in this book is to try and explain how this is possible. What is it about human activity that leads to rising living standards? What does prosperity mean? And I approached it in a very naïve way. I'm really a scientist – I have no economics training and I've tried to figure things out as a biologist. For example, if you give rabbits a lot more food they don't get more prosperous. But you give us double our numbers and we get more prosperous. Why? What is going on here?

I decided that in the end it all boils down to a question of time: the time you take to fulfill a need or a desire and reducing that time. If each of us had to go fulfill our needs from scratch, through our own efforts, by killing our own food and making our own shelter you end up fulfilling your needs rather poorly and taking a long time to do it. Whereas as it is, you fulfill lots and lots of needs and you get more and

more diverse in your consumption; you can do more and more things in your life when you do so by doing a narrower and narrower number of things yourself. You specialize as a producer in order to diversify as a consumer. So effectively what happens is that we all work for each other.

My favourite example of the effect of this is electric light. If you want to read a book tonight for an hour, by the light of a compact fluorescent bulb – and I hope it's my book – then how long had you to work in order to earn that much light? The answer is, if you're on the average U.S. wage, about half a second. Half a second's work will buy you about an hour of light. Back in the 1950s, on the then-average wage, with incandescent bulbs and the then-cost of electricity you'd have had to work for about eight seconds. So that's seven and a half seconds that you've got that your grandparents didn't have, during which time you can set about earning something else and fulfilling a different need and supplying someone else with a different job.

That to me is what economic growth is. Back in 1880 you'd have had to work for 15 minutes to earn that much light from a kerosene lamp and in 1800 for six hours to earn that much light from a tallow candle. The average person in 1800 simply could not afford a candle. They'd have had to work too long to do it.

Each of us today lives the lifestyle of Louis XIV, when you think about it. Louis XIV was rich because he had a lot of people working for him. But we've got people working for us. I mean Louis XIV had 498 chefs to prepare his dinner every night, apparently. But each of you has 498 chefs to prepare your dinner every night. They're in cafes and bistros and wonderful restaurants like this, all over town. At an hour's notice and with an hour's drive you can get them to produce a wonderful meal for you which not only is more likely to have exotic things like mangoes in it but also less likely to have salmonella.

It's the process of exchange, it's the habit of swapping different things and thereby specializing that is the source of human prosperity. It's a habit we invented that once we started exchanging things we began to specialize and once you begin to specialize, exchange has more value. Once you begin to exchange, specialization has more value. It's a kind of fast-breeder reactor which gradually builds upon itself, and that has been the motor of human history. Every now and then you throw it into reverse by starting an empire or something like that, so it's isn't always going to improve, but that's really what is driving human

prosperity. The source of innovation in our society is the mixing, mating and meeting of ideas. As I put it, it's ideas having sex.

I mean that quite literally because the role of sex in biological evolution is to make it cumulative. Without sex you don't accumulate different mutations from lots of different individuals. You don't get horizontal transfer of genetic ideas. You only get vertical transfer. Exchange has the same role. It enables you to draw upon ideas and innovations that happened to lots of different people in lots of different places at lots of different times.

When did we invent this habit of exchanging? Essentially, it's trade. It looks like it was about 100,000 years ago because that is when you find shells used as beads which have moved 100 miles inland in Algeria and you find the same sort of thing in Ethiopia. You find, in other words, human beings are starting to move objects long distances and that means trade. It's something the Neanderthals never did. Even though they had bigger brains than us, they didn't have a bigger collective brain. They weren't able to draw on ideas from other people to the same extent. So we've moved steadily away from self-sufficiency and towards working for each other.

We're not the only species that do this. The social insects do this, they work for each other. The queen works for the workers and the workers work for the queen but they only do so within the family. They don't work for strangers and that is because they have a reproductive division of labour. They also delegate reproduction. That's the one thing we don't delegate. We rather like to do it ourselves. Even in Britain we don't expect the Queen to do it for us.

Effectively my argument is that the entire human experiment is based not on individual intelligence but on a sort of collective brain, on a shared and dispersed intelligence which means, intriguingly, that there are things that we achieve that we don't understand. I'm talking about things like a stock market or a pencil. There's a wonderful essay by an economist named Leonard Read called "I, Pencil," in which a pencil tries to work out how it came to be. The pencil realizes that although millions of people contributed to making it -- including the man who was growing the coffee that was drunk by the lumberjack who was cutting down the tree -- not one of them knew how to make a pencil. Literally there is nobody on this planet who knows how to make a pencil.

The man who runs the pencil company just knows how to run a company – he doesn't know how to make a pencil. The man mining graphite in Sri Lanka knows how to mine graphite but he doesn't know how to cut down a tree, and so on. That is why we're able to achieve such extraordinary things as a species. We've collectivized our knowledge, we've given ourselves a brain that is bigger than the sum of its parts. That's why I'm not interested in debates about IQ about whether one group has higher IQs than another. If you put hundreds of stupid people in a room and make them communicate they're going to achieve far more than 100 clever people in a room who don't talk to each other.

And with the internet having linked our brains together so that ideas can have sex more rapidly than ever before we must be accelerating the rate of innovation; that must mean that whatever/however we mess up – capital markets and exchange rates and all these other things -- we can't help but have these time-saving innovations come through and change the lives of our children. I think it's a bright future, but there are constraints, there are things that threaten to slam on the brakes and just as in the 1970s, a lot of people are very keen to emphasize them.

It's possible that perhaps I'm like the man who falls past the second floor of the skyscraper shouting "so far, so good." But I don't think so, because if you look at population growth it's now growing at one percent a year, globally, as opposed to two percent in the 1960s. It quadrupled in the 20th century and it's only going to increase by about one and a half times in the 21st century. We should be able to cope with that level of increase. It will level out some time in the second half of this century, almost certainly.

Food? We are able today to feed seven billion much more easily than we fed the three billion that were on the planet when I was born. And we're doing so while releasing more and more land back to forests, particularly in countries like this and in northern Europe. Fossil fuels? You could make an argument until a few years ago that oil or gas was going to run out – I don't think anyone believes that now, at least not in the short term. Shale gas has utterly transformed the picture from us having a few decades worth of gas to us having a few centuries worth of gas. That gives us plenty of time to find other sources of energy. Climate change? It's quite possible that it is a threat but nobody's models suggest that it's likely that we're going to get very damaging climate change. It's still only a very remote possibility at the tail end of the distribution; it's much more likely we're going to see mild climate change.

Besides, we adapt pretty well to changes. Your probability of being killed by a drought or a flood or a storm globally is down in the last decade by 98% compared to the 1920s. That is not because droughts, floods and storms have got less dangerous. It's because we have better shelter, better transport, better communications, better medicine, better emergency rescue, and all those kinds of things. So I think the most sustainable thing we can do is not retreat to low growth, low technology self-sufficiency, but advance further to high trade, high technology specialization. Seven billion people going back to nature would be a catastrophe for nature.

Sometimes people say to me, "Yeah, but isn't pessimism necessary? I mean, if we weren't worried about the problems that face us we wouldn't set about solving them." Superficially, that sounds persuasive but if you look at the people who make great, innovative leaps, people like Archimedes, al-Khwarizmi -- the guy who invented algebra -- Fibonacci, George Stephenson, Thomas Edison, Steve Jobs, they all lived in the most ambitious, prosperous and hopeful places on earth, not in the most desperate of their time. Archimedes lived in ancient Greece, al-Khwarizmi in Abissid Arabia, Fibonacci in early Renaissance Italy, George Stevenson in Victorian Britain, Thomas Edison in New Jersey, Steve Jobs in California. So I don't think innovation is driven by desperation. Last time I checked the Zimbabwean software industry had not achieved a lot.

Then people say to me, isn't it complacent to be optimistic? I think it's quite the reverse actually. I think what is complacent is to be pessimistic about new technologies and say that the existing technologies are good enough. We don't want genetically modified foods because they might be a risk, let's stick with pesticides. That's essentially saying you are Panglossian enough to think that the world can't get better. I think it can.

Let me end with my favourite quotation on this which is, "On what principle is it that with nothing but improvement behind us we are to expect nothing but deterioration before us?" That was said not by me but by Thomas Babington Macaulay, the historian, in 1830. Already then he was fed up with the pessimists saying it cannot get better it can only get worse, and yet it had hardly started getting better. In the long run, in the big picture, it's all going to be great but there are going to be a few bumps along the road.

Q and A

Rudyard Griffiths: As we wait for audience questions, I have one for you. A lot of your previous books were about evolutionary biology and your case tonight about optimism is very persuasive. But why then hasn't the species responded to that?

MR: I don't entirely know but a couple of thoughts. One is that there are always good reasons to be cautious. This was particularly so back in the Stone Age. If you and I are walking to a waterhole and you say, "I'm not sure we should go that way. I think there's a lion behind that rock," and I say, "No, no, we're fine," I'm dead and your genes are in the next generation via my girlfriend. Cautious genes will spread in the expensive un-cautious world. I think that's one reason. We can imagine genetic selectivity for that. And as somebody pointed out to me, the thing about the past is that it's ok, it's certain, we know it worked. We got here tonight without being run over. The future is not so certain and it could go wrong at any time; there is a certain sense in being much more cautious about the future than you are about the past. These aren't entirely satisfactory explanations to me and I would just point out that actually people are not pessimists about their own lives. They tend to take a rather rosy view of their own future. I think I'm going to be ok, I think I'm going to earn more than I actually will, I think I'm going to stay married longer than I do. So it's really about the group and the species and the race that we indulge our pessimism and I don't entirely understand that.

Michele Calpin: My question is if I look at the next 100 years I could see being optimistic and the human species evolving positively, but there are certain pockets like the Depression or the Dark Ages that were obviously very difficult times. So are there certain times that the human species doesn't go forward optimistically and are there ways to think about that in terms of markers?

MR: Yes, the setbacks, the periods in which it all goes pear-shaped and we retreat tend to be periods when communication and trade and networking break down. During the Dark Ages trade in the Mediterranean ceases, Italy has to go back to being self-sufficient, the population of Rome collapses and everyone goes back to the farm. I see it very much as when the network collapses, when communication collapses. There are two things that achieve that, two words that encapsulate what goes wrong. One is superstition and the other is bureaucracy. That is to say when Arabia turns its back on this extraordinary flowering of reasoning and enlightenment and civilization and culture and art and prosperity in the 11th century, it's because the priests get in charge and burn all the books and basically superstition

takes over from reason. When China turns its back on the world and shuts down the extraordinary prosperity of the Song Dynasty, it's because the Ming emperors bring in a ludicrously top-heavy bureaucracy that shuts down not only international trade but trade within the country. Merchants weren't allowed to travel to other towns without permission – that sort of stuff.

Those two words – bureaucracy and superstition -- sum up my view of what goes wrong. In the past, there were times when you could shut down whole chunks of prosperity on the planet, like the Dark Ages, but the flame was kept alive somewhere. When France shut down the enlightenment in the 11th century and so did Arabia, and China was going backwards, the early Italian city-states kind of kept the gig on the road. There is a tiny bit of me that worries that now that we've got one big globalized world, if we decide to go in for some major superstition in world government or major world bureaucracy in world government we could shut the whole thing down. It's very hard to imagine, however, the Indians or the Brazilians or the Chinese all simultaneously turning their backs on innovation which is effectively what would have to happen.

Another way of looking at it is that in the past booms led to too many babies and you eventually got to the point where you had this sort of Malthusian problem that basically you were eating away at your own prosperity because you were dividing up the farms among too many heirs. We kind of solved that problem when we discovered fossil fuels. Around 1800 we got such a more rapid version of economic growth through the industrial revolution that we actually got falling birthrates through the demographic transition. We got to the point where you didn't run up against constraint barriers and when you built a prosperous society you didn't end up having too many mouths to feed. So that's another way of looking at it and again I think that could continue.

David Grutzer: I very much enjoyed your presentation. I just perhaps would disagree with one thing; you suggest that we're as prosperous perhaps as a King of France. I don't know of too many kings of France who would have had air-conditioning or a car at their disposal. But here's a question: does the cup runneth over? Are we perhaps too prosperous? For example, in the west we see rising rates of obesity and perhaps as a result a decline in life expectancy. Are we growing too fat off the land, so to speak?

MR: I do worry about obesity. It clearly is a growing problem and it's one that as you say comes from too much prosperity. I went on David Frost's program on al Jazeera to talk about hunger when there were food riots going on in Egypt. This was just before the Arab Spring. The sprinter Carl Lewis was on the program because he's a U.N. Ambassador on hunger and after a bit we all agreed that although hunger was a problem, on the whole things were better than in the past.

We then started talking about obesity. I kind of stopped and said, "You know, it's pretty great that we can worry about obesity. A hundred years ago you couldn't worry about obesity. Hunger was too big a worry." In that sense, we should be grateful that it's a problem that we can worry about. Personally, I think that it's all about quality of food. If what we can do is get people off refined carbohydrate diets by making people wealthy enough to afford the kind of food we've eaten tonight, then gradually things will improve. The very rich are not very fat because they're eating even better. So I think it's a sound barrier we can go through and come out the other side. And I'm not yet convinced by this argument that it will lead to lower life expectancy. The jury's still out on that one.

Back to your point about the King of France, though: there's a wonderful thought experiment that an economist called Don Boudreaux did where he imagined going back to the 1960s with his current income and being Lord of All he Surveys and far richer than everyone else but despite that, there were still no wheels on the suitcases and there were no café mocha lattes and there were no cell phones. There are amazing things that are available to us that have nothing to do with income.

Bob Johnson: To what extent is your sense of optimism grounded in a sense of us all being in the same place together, as opposed to an earlier world where we killed each other in Europe, and so forth?

MR: It's more in the foreground than the background. As I said, I've just read Steven Pinker's wonderful new book, *Better Angels of our Nature*, and there are interesting parallels with my argument. We knew we were writing books along the same lines but we didn't compare beforehand. But he makes this fascinating argument about why so much violence has declined, about how essentially because of communication, because of technologies of communication, because of printing and everything else right up to the internet, good ideas can

spread around the world. He is saying it's the dissemination of ideas that is driving this.

In a fascinating passage he asks why the rights revolution happened, why people started to think about human rights and started to put themselves in the shoes of others. For example, torture is something that in the 16th century was a) a perfectly normal thing to do. If you didn't like someone you tortured them. But also b) it's quite fun, you go and watch. That's unimaginable today. And he says look, when people start writing novels and memoirs and histories and so on there are suddenly what he calls "technologies of empathy." People are reading these books and starting to put themselves in the shoes of others. It's starting to get very difficult not to think of your torture victims as human beings.

The dissemination of ideas in the philosophical realm, as well as in the economic realm, is part of the same story. I'm trying to work out whether Steven and I are saying the same thing. Thank you for that question because it's an area of great interest to me.