

Prime Minister's article in the Daily Telegraph: 21 June 2021

I cannot think of a time in the last 100 years when the entire population of this country has been so deeply and so obviously indebted to science – and to scientists.

Had it not been for our scientists, we would not now be able to enjoy the most basic human freedoms: hugging relatives, meeting friends, playing football, going to the pub; or at least not without the risk of spreading a lethal disease.

It is thanks to the vaccine roll-out that literally every person and every family in this country has an immediate future that is happier, more prosperous, more full of hope and opportunity, and if you think I am belabouring this point, it is because it needs belabouring.

We have spent too long in a state of semi-detachment from science, as though it was something intimidating and remote from our lives. Too many people in our country lack training in science and technology, too many children think STEM subjects are not for them.

Most glaringly of all, this country has failed for decades to invest enough in scientific research, and that strategic error has been compounded by the decisions of the UK private sector.

It is a wretched fact that British firms are currently investing a fraction of the OECD average on research; and though the speed of the discovery of Oxford AstraZeneca was little short of miraculous, it was also something of a miracle that it took place here at all. Before Covid, the UK domestic vaccine industry had almost perished out of benign neglect.

Had a couple of investment decisions gone the other way, this country might not have possessed the skills or practical capability to make vast batches of the vaccine that has been so indispensable to our success.

So this is the moment to learn this stark lesson of the pandemic – our daily dependence on high-quality scientific research. It is also the moment to abandon any notion that government can be strategically indifferent, or treat research as a matter of abstract academic speculation.

I am not suggesting that government should try to exercise scientific judgment, or impose some dogma on the scientific world – like the deranged genetic theories of Stalinist Russia.

On the contrary, it is because we want to support high science, and to foster research that may or may not lead nowhere, that we are setting up the high-risk high reward ARIA agency, on the lines of DARPA in the US. We need to intensify the search for the unknown unknowns.

And then there are the known unknowns, the nuts we know we need to crack, for the sake of our health and happiness. If the covid experience has taught us anything, it is that government does have a role in making demands, in explicitly framing the challenges we hope that science can meet.

If we don't, there are others who will. We made no particular effort to develop 5G, for instance, and we have paid a price. For the first time since the second world war, the largest western democracies were left behind in the race for a major new communications technology. It is a mistake that has proved expensive to rectify, and we don't want to make another one like it.

So we are investing unprecedented sums, increasing government spending to £22 billion for scientific research of all kinds; and we need to use those billions of state spending to leverage in the many more billions of the markets.

One way to encourage those private sector investments is to give the market players the confidence that they are backing national priorities – so that public and private sector come together to deliver the breakthroughs, like the covid vaccine, that can transform our lives and economic prospects.

To shape those priorities I will be chairing a new National Science and Technology Council, with Sir Patrick Vallance as my National Technology Adviser, so that together we can give the scientific world – in academia and across commercial laboratories – a sense of where we think we need to go.

Some imperatives are already obvious. We need science urgently to accelerate the solutions that will help us to tackle climate change. We need progress on efficient power storage, hydrogen manufacture, net zero aviation, and other knotty problems raised in our ten point plan. We have a huge challenge to meet net zero by 2050, and not much time. But the vaccine programme has shown that when the pressure is on, humanity can produce feats of Manhattan Project-like speed, as the research of decades is compressed into months. It will be the job of the new National Science and Technology Council to signal the challenges – perhaps even to specify the breakthroughs required – and we hope that science, both public and commercial, will respond.

We will be thinking about medical imperatives, such as tackling dementia or using new gene therapies to cure the hitherto incurable.

We will be thinking about the new threats and opportunities in cyber, in space, and in the field of AI. We will of course be hoping that British science will play a leading role in fixing the problems of the world, providing everything from cheaper pharmaceuticals to drought-resistant crops.

We will pursue these missions not just because each breakthrough could be a boon for humanity, but also because we want to see the expansion of scientifically-led start-ups and scale-ups, and a growth that goes beyond the golden triangle of Oxford-London-Cambridge and across the whole country.

We want the UK to regain its status as a science superpower, and in so doing to level up. The UK has so many of the necessary ingredients: the academic

base (four of the world's top ten universities), a culture of innovation, the amazing data resource of the NHS, the capital markets.

What we are offering now is record funding combined with the strongest possible political support and backing for science and a clear indication of where government sees greatest need.

Of course we must generously fund pure science. We must allow for serendipity. You cannot plot or plan every breakthrough. But you can certainly set out to restore Britain's place as a scientific superpower – while simultaneously driving economic prosperity and addressing the great challenges we face – and that is the plan of the government.