The Hidden Dangers of Human Evolution

Today, we're concluding our Biotech Breakthroughs series – rounding up the key trends you need to consider, when investing. Today, we'll be taking a darker turn – including many dangerous technologies.

Genetic upgrades

We are used to the idea of individual differences. Some of us are taller or smarter than other people. But there are limits to the cards we can be dealt by life. Excepting random mutations, the next generation can only get the genes already present in this one. However, it doesn't necessarily have to be that way. What if we could choose cards that are currently not in the deck? Maybe you'd like to play poker with the 14 of clubs?

If we look around the animal kingdom, we see a huge range of talents, which people may find appealing for their children. Would you like to be able to be to see in ultraviolet, like a goldfish? Maybe you'd like ultrasonic hearing, like a bat?

Gene therapies in macaques showed that extra colour receptors can be added to the eye – even after vision had developed. It therefore seems at least possible that we could emulate this approach in humans.

Would we want to be superhuman? An injection that lets you see completely new colours could be crucial to your success – or even your survival. Think, for example, of a fireman who could see in infrared – a potentially life-saving ability.

Such an aggressive approach to genetic engineering unlocks one potentially sinister future. Genetic engineering could give us healthier, cleverer, more beautiful children – even superhuman ones. We might then decide that these clever, beautiful children should be genetically programmed to be unable to breed with children *not* modified in this way. That would mark the creation of a new species of human — homo superior, as they may well see themselves. Evolution may have a different view on their superiority, however – and those left behind may engage in the mother of all internecine conflicts.

Check out our previous coverage on genetics.

Artificial diseases

Not everything in the future will be rosy. While there are going to be dramatic improvements in medical technology, many advances have the capacity to be used for nefarious purposes. One prominent risk is that of synthetic or modified diseases. These pose a grave risk to humanity.

Terrorism is an entrenched problem in the modern world. As biotechnology becomes ever more sophisticated and accessible, we can imagine a future where a small group of deadly innovators attempt to exterminate much of humanity. By developing a vaccine alongside a disease, a biotech-savvy terrorist could create a selectively genocidal wave of disease, unparalleled in human history. If you want to see how this could play out, take a look at what European diseases did to the Native Americans.

If advances in biotechnology mean terrorists create plagues instead of bombs, we could be looking at a cataclysm for humanity.

The antibiotic apocalypse

We are potentially about to witness the end of antibiotics. In recent years, moves have been made to bring new drugs to the market – and to limit the misuse of older ones. We can nevertheless expect a situation where there is a dramatic decline in antibiotic efficacy. For example: gonorrhea is now becoming untreatable in some parts of the world.

We can thank antibiotics for much of the increase in life spans throughout the twentieth century, and to lose them would be a catastrophe. Calamities of our own making are a different class of tragedy from those that are unavoidable.

How bad is this getting? Colistin, a last line antibiotic, is currently fed to farm animals in China. It looks like we are almost literally feeding pearls to pigs.

Check out our previous coverage on antibiotics.

De-extinction

Finally, a curve ball. You may have read about the supposedly pending de-extinction of the woolly mammoth. It was claimed by the breathless mainstream media that the mammoth would soon walk again. Unfortunately, this possibility relies on a series of

far-fetched technological developments – everything from chromosome reconstruction, to the ability to fully gestate in artificial wombs. Accordingly, we won't be seeing resurrected mammoths any time soon – but, eventually, they may come, along with other formerly extinct species.

Most exciting of all, we may be joined by various species of humans – such as the Neanderthals. I'm personally fascinated by whether I would be more likely to be friends with them, or to visit them in a zoo. I expect the former. De-extinction of humans will give us the ability to incorporate new genes into our own genome – potentially curing a range of diseases, and giving us new "super powers" – like the ability to function at altitude, which we may have acquired from a now-extinct human species.

Please do write in, with anything you think we've missed: andrew@southbankresearch.com.

Best,

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