

THE  TIMES
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SCIENCE 11

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Professor Andy Miah explores what makes humans unique.

There may have been a time when reaching a consensus on what defines humanity was relatively straightforward. Of course, this didn't mean that everybody agreed on a single definition, but that knowledge about what made us human was circulated and authenticated in such a narrowly controlled way, that any attempt to reject the prevailing worldview was promptly and easily rejected.

Things are a little different today. Not only have we lived through the Enlightenment and now enjoy a world where multiple belief systems (sometimes) co-exist, we also understand where the Enlightenment went wrong. Today, our biological and social scientific knowledge of humanity has progressed so far that identifying any essential quality - or Factor X - of our humanness may prove to be impossible.

Still, there has been no shortage of candidates – our capacity to reason, to feel a range of second-order emotions like embarrassment, to develop complex language systems and subsequently cultures; even the pattern of our DNA have each been proposed in some form over the last 200 years to assert what is unique and special about the human species.

However, each of these measures has fallen foul to discoveries that reveal them to be malleable, not essential, and often shared with other species, leading us unavoidably to conclude that what defines humanity, this Factor X, may simply be our willingness to alter and experiment with our biology.

Yet, today's times are also similar to previous millennia. While today we question the absolute status of biological limits and actively partake in their manipulation through technology, there still remains controversy over how far we should be allowed to go before we corrupt Factor X in such a way as to be catastrophic.

FACTOR X



These concerns are present when large environmental disasters strike, regardless of whether they are caused by humanity, or nature. As well, isolated and unforeseen health pandemics, coupled with failed human interventions, which bring untold harm to our species, all urge caution before we tamper too much with our molecular design or, indeed, that of other species.

Still, whether it is the automobile or antibiotics, technology has become inextricable from an increasingly biologically nanoscaled world, where artifice and nature intertwine to form a synthetic biological relationship.

Scientists already treat ageing as a disease, the onset of which we should delay or perhaps even halt in the name of our rightful pursuit of health. As well, the growing culture of cosmetic surgical interventions demonstrates how the line between aesthetic and functional modifications is blurred, along with the distinction between therapy and enhancement, where prosthetic devices may soon surpass the capacity of biological organs.

As a child of the new millennium, the Times Cheltenham Science Festival may be seen as the midwife of this braver, newer world. Having brought to the public's attention the gravity of these changes and, in so doing, altered the course of their appropriation, we must surely conclude that the strongest candidate for Factor X remains humanity's desire to discuss what makes us human.

Professor Andy Miah, PhD Director, Creative Futures Research Centre, University of the West of Scotland
<http://creativefutur.es>

Andy will be taking part in The Ethics of Synthetic Biology (S33, p21) on Wednesday and X-Men vs Bionic Women (S45, p24) on Thursday.

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