

REASONS TO BE CHEERFUL

Baroness Perry is inspired by an anthology of positive predictions about the potential of science to transform human health and wellbeing in the 21st century

After years of gloomy predictions of the effects of global warming, the plague of obesity, flu pandemics and much else, it seems almost an oxymoron to find not one but over 80 optimistic scientists collected together in one book.

The New Optimists is written in part to mark the 350th anniversary of the founding of that most wonderful of institutions, the Royal Society. Just as its fellows over the centuries have performed world-changing research, so the contributors to this collection, conscious of the noble tradition in which they work, look with confidence to what scientific research will contribute to our future.

The range of field covered is immense, encompassing probably every aspect of human life. The emphasis is, understandably, on medical research. There is a whole section on cancer and the promise of its defeat now within the reach of science; personalised medicine, pharmaceutical advances and genomic tools offer 'unprecedented potential' for prevention and delaying the onset of this ancient foe. Indeed, the claim is made that cancer will be controlled 'within one generation'.

A section on the biology of ageing, and the many ways in which our bodies' deterioration can be arrested or reversed, is surprisingly optimistic. A section on genome therapies, 'reading the book of life', as we have never been able to do before, foretells the almost unlimited possibilities that stem from this new field. Similarly, Professor Jon Rampton, celebrating the awesome promise of stem cell science, writes that 'the application of our rapidly expanding knowledge about stem cells will revolutionise the future of medicine'.

Our perception of engineering is challenged in three sections which chart the wonders of engineering's contribution to medicine. These include joint replacement, for example the hip operations which transform the lives of many elderly people; modelling of movement to enhance the performance of dancers and prevent the damage to their bodies which dancing can cause; and the work which acoustic engineers are doing to tackle our perceptions of noise in the environment.



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Other sections deal with the challenges and promises of computer and IT technology in their human interaction and use. In her clear and jargon-free essay, Dr Kathleen Maitland predicts that the way that young people of today interact with technology will lead to 'scientific breakthroughs which we could never dream of'.

One important area, where optimism is perhaps the most surprising, is the natural world and our relationship with it. A wide-ranging chapter deals with every aspect from plant biomass as an energy resource, through drainage systems, electric cars and plant evolution to the human resources to be found in urban populations who still seek open spaces and who yearn to be in contact with nature.

In seeking indications of optimistic developments, the chapter on 'working together', that is on interdisciplinary collaboration, is perhaps the most telling. In the past, the aerospace industry, for example, has developed through materials science, physics and chemistry. The huge increase in life expectancy over the last century has come about through developments in pharmaceuticals, in

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instrumentation technology such as MRI, and in discoveries in biology, for example the work of Haworth and Karrer which revealed the importance of vitamins. In the future, such interdisciplinary research will undoubtedly be the key to advances, and its increasing incidence is a cause for optimism in so many areas.

The book is, of course, a plea for generous funding of scientific research, as is only right from this community. The case they make is powerful indeed. They and their successors are our future, and if they are allowed to continue to flourish, that future appears indeed to be bright. 🌟