
Editors' Note

Scientists are notorious for making bad predictions. Demographer-turned-political economist Thomas Malthus predicted in 1798 that human population growth would quickly eclipse the ability to provide everyone with adequate sustenance, paving the way to his famous triumvirate of universal “misery, vice and poverty.” Writing a century later, British scientist William Thomson – better known to us as Lord Kelvin – famously declared, “Radio has no future. Heavier-than-air flying machines are impossible. X-rays will prove to be a hoax.” Even Albert Einstein, in a rare moment of shortsightedness, proclaimed in 1932, “There is not the slightest indication that nuclear energy will ever be obtainable. It would mean that the atom would have to be shattered at will.”

As our outlook for the future is undoubtedly shaped by our experiences in the past, it is not surprising that even some of the most brilliant minds throughout history have failed to forecast the winds of tomorrow. Nevertheless, even in the face of uncertainty, scientists have bravely forged ahead, making bold predictions that are more likely to be objects of derision than be realized.

Still, there is value in this seemingly-futile exercise; it allows us to divert our attention from the ever-present now, to the impending future. It allows us to study a process and not just an experiment. It also allows us to anticipate change and ask not just the positive questions of what or how to do, but also the normative questions of

why or whether to do it.

For our current issue of the *Harvard Science Review*, we have borrowed a term originating from the game of chess – “endgame” – to highlight the crucial juncture at which we find ourselves in each of a variety of scientific fields. In chess, “endgame” refers to a particular strategic way of playing the crucial final stage of a match in order to achieve a checkmate. (We explore this connotation of the word “endgame” in an interview with Harvard Mathematics Professor Noam Elkies, an expert on chess strategy.) For our purposes, we use “endgame” in the context of scientific processes – particularly those that have direct consequences for our well-being – and explore how science may help us effect a favorable outcome.

Areas of interest covered in the issue span the spectrum of scientific disciplines, ranging from astronomy to archaeology, extinctions to agricultural science, drug resistance to energy crises. We present the prevailing situation in each of these highlighted areas as an “endgame” in which we face the task of developing and implementing strategies to ensure our continued survival and the preservation of the planet we inhabit.

Finally, as you read through this issue and consider the global challenges facing us, be sure to take a look at our center spread in which one of our staff writers discusses the many interesting ways – some more likely than others – in which the world as we know it could possibly end. Thank you for reading *The Harvard Science Review*! **H**

-Divya Jayaraman and David Mu
Editors-in-Chief