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Technological Advances Offer Optimism For The Future

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One of the many joys of working on the Human Progress project is to observe the steady stream of medical, scientific and technological breakthroughs that promise to improve human lives. In the last two weeks alone, there have been a number of interesting developments that could make the lives of ordinary men and women healthier and easier. Though they've been drowned out by a 24/7 news cycle centered largely around political theatrics and hysteria, such advances offer the opportunity to change the world for the better in a way politics never can.

For example, Japanese scientists at the National Institute of Advanced Industrial Science and Technology have genetically engineered hens to lay eggs that contain "interferon beta," a protein that is used to fight illnesses such as cancer, hepatitis and multiple sclerosis. The researchers introduced the genes that produce interferon beta into cells that later become chicken sperm. The female offspring can then produce eggs that inherit these genes. The scientists hope to sell the interferon beta to pharmaceutical companies and reduce the price of the drug to 10 percent of its current price. Unfortunately, due to strict Japanese regulation concerning pharmaceutical products, the screening process is likely to take years.

Meanwhile, the U.S. Federal Communication Commission gave permission for Alphabet, Google's parent company, to use high-flying balloons to restore cell service in Puerto Rico, where 83 percent of cell sites lost service. "Project Loon" will use a network of high altitude solar balloons to bring internet service to remote areas of the U.S. territory. Project Loon was successful in restoring LTE services to areas in Peru that lost service following significant flooding earlier this year. Alphabet hopes to replicate that success in Puerto Rico.

Moreover, for the first time in human history, medical professionals successfully performed a "chemical surgery" on a human embryo. The goal of such a procedure is essentially to remove—or, more accurately, to reverse—a disease from an embryo. Utilizing a method referred to as "base editing," a medical team at Sun Yat-Sen University in China was able to isolate and "correct" one single error out of the three billion letters comprising human DNA. The importance of this breakthrough is amplified by the fact that the disease was beta-thalassemia, a potentially life-threatening disorder in the blood. In time, this microscopic procedure could revolutionize the way humans treat certain disorders.

Finally, a team of scientists from Harper Adams University and the agricultural company Precision Decisions, have managed to remove human labor from farming using "robot farmers," in a project named "Hands-Free Hectare." The autonomous vehicles and drones drilled channels, planted seeds, applied fertilizers and eventually harvested the acre and a half of English countryside. The team was successful in their aim "to prove that there's no technological reason why a field can't be farmed without humans working the land directly." They plan to repeat the experiment during the winter harvest season.

While the front pages of newspapers and lead stories on television are filled with stories of doom and gloom, incremental improvements in human lives are taking place every day. Please visit Human Progress for your daily dose of optimism.

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