

The Biotech Century : Harnessing the Gene and Remaking the World

By Jeremy R. Rifkin

The computer revolution is merely a prelude to a far more significant change taking place in the global economy. We are in the midst of a great historic transition into the Age of Biotechnology.

After more than forty years of running on parallel tracks, the information and life sciences are fusing into a single powerful technological and economic force that is laying the foundation for the Biotech Century. The computer is increasingly being used to decipher, manage, and organize the vast genetic information that is the raw resource of the new global economy. Already, transnational corporations are creating giant life-science complexes from which to fashion a bio-industrial world.

Our way of life is likely to be transformed more fundamentally in the next few decades than in the previous thousand years. Food and fiber may be grown indoors in giant bacteria baths, partially eliminating the farmer and the soil for the first time in history. Animal and human cloning could become commonplace, with “ replication ” increasingly replacing “ reproduction. ” Millions of people could obtain a detailed genetic readout of themselves, allowing them to gaze into their own biological futures and predict and plan their lives in ways never before possible. Parents may choose to have their children gestated in artificial wombs outside the human body. Genetic changes could be made in human fetuses to correct deadly diseases and disorders and enhance mood, behavior, intelligence, and physical traits.

The Biotech Century promises a cornucopia of genetically engineered plants and animals to feed a hungry world ; genetically derived sources of energy and fiber to propel commerce and build a “ renewable ” society ; wonder drugs and genetic therapies to produce healthier babies, eliminate human suffering, and extend the human life span. But with every step we take into this brave new world, the nagging question will haunt us : “ At what cost ? ”

The new genetic commerce raises more troubling questions than any other economic revolution in history. Will the artificial creation of cloned, chimeric, and transgenic animals mean the end of nature and the substitution of a “ bio industrial ” world ? Will the mass release of thousands of genetically engineered life forms into the environment cause catastrophic genetic pollution and irreversible damage to the biosphere ? What are the consequences – for both the global economy and society – of reducing the world’s gene pool to patented intellectual property controlled exclusively by a handful of life-science corporations ? What will it mean to live in a world where babies are genetically engineered and customized in the womb, and where people are increasingly identified, stereotyped, and discriminated against on the basis of their genotype ? What are the risks we take in attempting to design more “ perfect ” human beings ?

The biotech revolution will force each of us to put a mirror to our most deeply held values, making us ponder the ultimate question of the purpose and meaning of existence.