The Novel Technologies altering our physical and mental landscapes

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THE very few technologies which are vigorously ruling the current world, Biotechnology (BT) and Information Technology (IT) are the premium sectors among them. Advances in technologies have fundamentally changed, and continue to alter the every structure of our lives. To take just one obvious example is that our workplaces look, sound and feel different than they did just a few years ago. And perhaps are in different locations and require different skills because of the advent of the Information Technology. More profoundly, these technologies are changing the ways we understand the world. Altering our sense of what it means for something to be a text, or a piece of information or an organism. Like the automobile or the atomic bomb, to take two very different, but equally powerful examples technologies will change and changing well, everything. They are literally altering our physical and mental landscapes.

Information Technology is the processing and distribution of data using computer hardware and software, telecommunications, and digital electronics. Alongside Biotechnology is the manipulation of biological organisms to make improved products that benefit human beings. It contributes to such diverse areas as food production, waste disposal, mining, and medicine. Although Biotechnology has existed since ancient times, some of its most dramatic advances have come in more recent years. It is often referred to as the technology of the 21st century and is being transformed from a purely lab-based science to an information science as well. And here a whole new discipline is evolving: Bioinformatics. This is the field of science in which biology, computer science, and information technology merge to form a single discipline. The ultimate goal of the field is to enable the discovery of new biological insights as well as to create a global perspective from which unifying principles in biology can be discerned. At the beginning of the "genomic revolution", a bioinformatics concern was the creation and maintenance of a database to store biological information, such as nucleotide and amino acid sequences.

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Over the past few decades, major advances in the field of molecular biology, coupled with advances in genomic technologies, have led to an explosive growth in the biological information generated by the scientific community. This deluge of genomic information has, in turn, led to an absolute requirement for computerized databases to store, organize, and index the data and for specialized tools to view and analyze the data. For example, a record associated with a nucleotide sequence database typically contains information such as contact name, the input sequence with a description of the type of molecule, the scientific name of the source organism from which it was isolated, and often, literature citations associated with the sequence.

Ultimately, however, all of this information must be combined to form a comprehensive picture of normal cellular activities so that researchers may study how these activities are altered in different disease states. The actual process of analyzing and interpreting data is referred to as computational biology. Near future these will represent a significant step toward the development of "smart" drug delivery systems.

Although we are not able to keep pace with the usages of these current advanced technologies, the tender wind of these technologies has been blowing over. Recently, Bangladesh government has declared the longing Biotechnology policy. Now, it is high time to increase people awareness. Besides, policy makers and think-tanks of the government should take opportune and sterling decisions to incorporate these technologies as a catalyst for our national development. Interaction of various lucid and fundamental concepts regarding these technologies will lead us toward a way where we will get a science conscious nation, obviously that is ardently crucial for our better and sustainable future. However, a synergistic collaboration of students and scientists from different disciplines is essential to push this novel technology from a lab curiosity to practical devices and systems.

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