

For Review

392WORDS

RTO 2-3min /RA 3-4min

The universe is in a perpetual state of change. The stars are in constant motion, growing, cooling, exploding. The earth itself is not unchanging; mountains are being worn away, rivers are altering their channels, valleys are deepening. All life is also a process of change, through birth, growth, decay, and death. Even what we used to call “inert matter” — chairs and tables and stones — is not inert, as we now know, for, at the submicroscopic level, they are whirls of electrons and protons. If a table looks today very much as it did yesterday or as it did a hundred years ago, it is not because it has not changed, but because the changes have been too minute for our coarse perceptions.

To modern science, there is no “solid matter.” If matter looks “solid” to us, it does so only because its motion is too rapid or too minute to be felt. It is solid only in the sense that a rapidly rotating color chart is “white” or a rapidly spinning top is “standing still.” Our senses are extremely limited, so that we constantly have to use instruments such as microscopes, telescopes and speedometers to detect and record occurrences that our senses are not able to record directly. The way in which we happen to see and feel things is the result of the peculiarities of our nervous system. There are “sights” we cannot see, and, as even children know today with their high-frequency dog whistles, “sounds” that we cannot hear. It is absurd, therefore, to imagine that we ever perceive anything “as it really is.”

25 Inadequate as our senses are, with the help of instruments
they tell us a great deal. The discovery of microorganisms with the
use of the microscope has given us a measure of control over
bacteria; we cannot see, hear, or feel radio waves, but we can create
and transform them to useful purpose. Most of our conquest of the
30 external world, in engineering, in chemistry, and in medicine, is
due to our use of mechanical contrivances of one kind or another
to increase the capacity of our nervous systems. In modern life, our
unaided senses are not half enough to get us about in the world.
We cannot even obey speed laws or compute our gas and electric
35 bills without mechanical aids to perception.