

UNIT 5

THE EFFECT OF SCIENTIFIC TEMPER ON MAN

BY Bertrand Russell

17th century men started the scientific development. They became technically more advanced and in their method of thinking also, thus starting the time of scientific temper.

Until the 17th century, human observation was not in order, and baseless traditions were accepted as fact and truth. Kepler – German mathematician, astronomer (planets study) proved that planets move in ellipse not in circles.

Men of 16th century believed all the activities in nature and the sky were thought to be connected to human tastes, hopes and fears.

For ex:

- 1). Planets move in circles because a circle is thought to be good structure in the minds of human beings.
- 2). Pestilences (deadly large-scale disease spread to all) and earthquakes were sent to punish humans for their evil deeds (works).
- 3). Rain was sent as a reward for good works.
- 4). Comets (shooting star) signaled death of princes.

17th century scientific temper did not accept all the above traditions and ideas. All things should be based on facts and proper search and analysis not on human fears, hopes and emotions as per scientists of 17th century.

Industrial Revolution: Changed new manufacturing processes from hand productions to machines (1760-1820) in textiles (clothes), iron making, steam engine. It started in England, and then spread to Europe, USA which led to developments from west (USA) to east (Asia-India, China).

Napoleon: Emperor (king of many nations) of France. 1804-1814 and did wars in Europe, but lost power due to industrial revolution.

SCIENCE AND SURVIVAL

BY Barry Commoner

DDT: killing mosquitoes

Fallout: nuclear explosion effects

Nuclear plants in India: (6): Tamil Nadu, Gujarat, U.P., Maharashtra, Karnataka, And Rajasthan

Nuclear plants in World: (432): Japan, China, France, Pakistan and soon. It filled the air with dangerous chemicals which affect human being.

Radioactive Pollutants: pollution of air, water and land through nuclear waste materials in nuclear plants which make electricity by using uranium as fuel.

Radium: Radioactive material used for cancer treatment.

Scientific inventions that caused pollution and health hazards:

- 1). Nuclear and atomic Bombs: have claimed the lives of millions of people in the past
- 2). DDT for killing mosquitoes: have ill effects on human after mixing with blood through air.
- 3). Fertilizers (synthetic chemicals): urea used in crops – wheat, rice, etc and vegetables, etc, will remain in soil for years passing on to other new crops.
- 4). Carbon-di-oxide, carbon-14 and smog from fuel combustion in cars, motor vehicles, trucks etc have caused global warming, floods and changed weather patterns.
- 5). Uranium used in nuclear plants becomes radioactive, meaning energy is released as particles which is dangerous for human beings.

The margin (or limit) for creating pollution was smaller but has grown large today and a single nuclear power plant accident can kill thousands of people and make whole region unfit to live in.

Man has made development in the field of arts, software programming, wildlife study and research, literature, science and technology, etc. But, the dangers caused by man through modern pollutants are much more dangerous as compared to the dangers related to any other enterprise. And so, the dangers we will be putting our future generations through will be too many.

All this tells us that these dangers (risks) were taken without fully understanding their affect. On human beings even though the main duty of 'science' is to look ahead and control human interference (disturbance) into nature (air, water, land).

MAN AND NATURE

BY J.Bronowski

Renaissance : (1) rebirth of a culture, skill (2) a major part of European history from 14th-16th centuries, started in Italy and regarded as marking the end of Middle Ages and the start of major cultural and artistic changes.

Middle Ages: 5th-14th centuries in Europe with very traditional and illogical values and beliefs.

According to Bronowski, man is a part of nature, which is accepted even today even though man has made great progress in science and technology. He is just a part of nature like a stone, or cactus or a camel.

This was not accepted by the western people and shook their self confidence as they strongly believed that "man was very unique (special)".

Many famous mathematicians and astronomers were killed cruelly for standing firm (strong) on their belief of planets and nature. For example: Giordano Bruno, a famous Italian mathematician and astronomer proclaimed (said) that sun was a star and the universe had infinite number of other worlds apart from our world which are likely to be populated by other creatures. The Roman Empire found him guilty of heresy (herasi) and he was burnt at stake for not giving up his beliefs about the universe, man and different world's existence.

This indicates that men want to believe in general that they are 'unique' and larger than life or at least larger than nature.

THE LANGUAGE OF LITERATURE AND SCIENCE

By Aldous Huxley

The day to day common language is not sufficient for the literacy and scientific expression of words and thoughts. Both the literary and scientific languages give a different sense of purity to the word.

For example: scientists use vocabulary and syntax of common speech to say something with the greatest clarity. Hence, he creates new technical language or jargons to be more specific about the subject matter to be communicated if he finds the existing words to be inaccurate or insufficient. He thinks of the objects of the nature like sun, moon, star, rainfall, wind only and only in scientific terms.

The scientist understands the meaning of natural objects like rose, lily, or daffodil in the language of bio-chemistry and genetics and cytology. Also, a scientist conveys only one thing at a particular time.

On the other hand a literary artist purifies the language of the tribe in a completely different way to communicate to the people. He creates words capable of communicating multiple meanings to human experiences on personal as well as public levels. He turns to lilies and daffodils since he finds multiple meanings in them and they give extreme pleasure to the artist. Nature's objects have different meaning to him such as sun, moon, stars, and rainfall and so on.

HUMANISTIC AND SCIENTIFIC APPROACHES TO HUMAN ACTIVITY

By Moody E. Prior

Though science and literature are concerned with very different areas of human life yet they have something in common, i.e. their capacity to formulate concepts which give us a new outlook and provide a new measure of control over our observation.

The works of literature involve us in responses as pity, fear, sorrow and pleasure and we cannot remain detached to their human meaning. Sometimes they involve us so completely that despite of being intellectually unconvincing, they rouse emotions. The tragedy of Antigone which occurred in classical Athens still touches us. Thus, it is true that the works of literature extend the range of human emotions.

Difference between scientific and humanistic approaches:

- 1). Effect of scientific ordering is detachment from individual experiences but humanistic ordering encourages attachment.
- 2). Humanistic approach evolves emotional responses but scientific approach has no such concern.
- 3). Creation of science aim at scientific interpretation of natural objects while humanistic works aims at giving multifarious facts and expressing various significances.

THE SOCIAL FUNCTION OF LITERATURE

By Ian Watt

Literature for pleasure and literature for instruction are two extreme news regarding social function of literature. The most convincing and safe view is compromise between the two i.e. literature should instruct by pleasing. If literature is exclusively for pleasure, it often disregards the intrinsic values of a society. It follows that providing pleasure always becomes antisocial. Likewise, literature for instruction has little social effect. A literature writer should accept all social, moral, religious values of his society.

According to the author, literature has an idea of its own society.

Literature is, thus, the most fine means devised by man for communicating with his fellows.

THE MOTHER OF SCIENCES

By A. J. Bahm

Philosophy functions as a comprehensive science in 3 ways. First it gives birth to different sciences, then it criticizes the sciences and thirdly it synthesizes the science and so it is called the mother of all sciences. Each science makes presuppositions of other sciences. Each science may appear to be in clash with the conclusion of other sciences.

The philosophy, thus aims at comparing assumptions and conclusions. The Burmese story of an elephant also tells us that in order to comprehend the total scheme, the function of synthesis is necessary. As the mother of sciences, philosophy has had a long and interesting history. Initially, no distinction was made between philosophy and sciences.

Gradually, the particular sciences were born. Among the first were mechanics, mathematics and astronomy.

Among the latest were psychology and sociology, no wonder if in future more sciences will be born.