Block-2

Unit 1 : The Scientific Revolution

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Unit Structure:

1.1 Objectives

In this unit, we bring to you a very wide and influential historical event, 'the Scientific Revolution'. You will find here a general but brief survey of the evolution of the Scientific Revolution through its various stages. By the end of the unit, you will be able to

- Define the Scientific Revolution
- Situate the emergence of the Scientific Revolution in the socio-historical context
- Identify the influences of the Scientific Revolution on various fields
- See the legacy of the Scientific Revolution

1.2 Introduction

The Scientific Revolution was a period of significant scientific advancements and changes in the understanding of the natural world that took place during the 16th and 17th centuries. It marked a major shift in scientific thinking and laid the foundation for modern science.During this time, significant advancements were made in various fields, including astronomy, physics, biology, and chemistry. Key figures such as Copernicus, Galileo, Kepler, and Newton challenged traditional beliefs and developed new scientific methods based on observation, experimentation,

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and mathematical reasoning. These pioneers overturned long-standing dogmas, such as the geocentric model of the universe, and introduced groundbreaking concepts like heliocentrism and universal laws of motion. The Scientific Revolution not only expanded our knowledge of the physical world but also laid the foundation for modern scientific inquiry, leading to the emergence of the scientific method and the establishment of empirical evidence as a cornerstone of scientific understanding. It ignited a profound intellectual and cultural transformation that continues to shape our understanding of nature and the universe to this day.

1.3 The Scientific Revolution

The Scientific Revolution was a transformative period that took place in Europe between the 16th and 17th centuries. It marked a significant shift in the way people approached the understanding of the natural world and the methods used to acquire knowledge. This period witnessed a profound change in scientific thinking, challenging traditional beliefs and establishing the foundations of modern science.Before the Scientific Revolution, much of scientific knowledge was rooted in ancient Greek and Roman texts, as well as religious doctrines. However, the Renaissance, a cultural and intellectual movement preceding the Scientific Revolution, sparked a renewed interest in humanism, curiosity, and critical thinking. Scholars began to question accepted wisdom and sought to explore the natural world through empirical observation and experimentation.Prominent figures emerged during this period, including Nicolaus Copernicus, Galileo Galilei, Johannes Kepler, and Isaac Newton. Copernicus proposed a heliocentric model of the universe, challenging the prevailing geocentric view that placed the Earth at the center. Galileo Galilei, using telescopic observations, supported and defended Copernican heliocentrism, leading to conflicts with the Catholic Church.

Johannes Kepler formulated three laws of planetary motion, providing a mathematical description of the movement of celestial bodies. These laws demonstrated that the planets move in elliptical orbits around the Sun, further undermining the geocentric model. Isaac Newton's groundbreaking work in physics laid the foundation for classical mechanics. His laws of motion and universal gravitation explained the behavior of objects both on Earth and in space. Newton's work united the earthly and celestial realms, offering a comprehensive framework to understand the physical world.

The Scientific Revolution also witnessed advancements in other scientific disciplines, such as anatomy, chemistry, and astronomy. Alchemy,

a precursor to modern chemistry, underwent significant transformations with the development of experimental methods. Important discoveries, such as William Harvey's circulation of blood and Robert Boyle's gas laws, revolutionized the understanding of the human body and the properties of matter.

The impact of the Scientific Revolution extended beyond the realm of science. It had profound social, cultural, and philosophical implications. The emphasis on reason, empirical evidence, and the scientific method challenged traditional authorities and led to a shift in how knowledge was acquired and validated. The scientific method, based on systematic observation, experimentation, and theory development, became the cornerstone of scientific inquiry.The Scientific Revolution laid the groundwork for the Enlightenment, an intellectual movement that emphasized reason, individualism, and skepticism toward authority. It also set the stage for further scientific advancements and the industrialization that would follow, ultimately shaping the modern world.

Stop to Consider

The Greek View Before the scientific revolution, the dominant Greek view that influenced science was the Aristotelian worldview. Aristotle, an ancient Greek philosopher (384–322 BCE), developed a comprehensive system of knowledge encompassing various fields, including natural philosophy (what we now call science). Aristotle believed that the Earth was the centre of the universe and that all celestial bodies revolved around it in perfect circles. This concept known as geocentrism became widely accepted and formed the basis of Greek cosmology for centuries.Aristotle also proposed the idea of four elements—earth, water, air, and fire—as the fundamental building blocks of matter. According to his theory, these elements had specific properties and qualities, and all substances were composed of combinations of these elements. In terms of motion, Aristotle posited that objects naturally sought their "natural place" in the universe based on their composition. For example, he believed that heavy objects naturally moved downward toward the Earth, while light objects moved upward toward the heavens. This concept was contrary to the modern understanding of gravity. Aristotle's approach to science was primarily based on deduction and reasoning rather than empirical observation and experimentation. He emphasized the importance of logical thinking and believed that knowledge could be obtained through logical

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deductions from self-evident principles.The influence of Aristotle's ideas on Greek science lasted for centuries and continued well into the Middle Ages. However, during the scientific revolution in the 16th and 17th centuries, these Aristotelian views were challenged and gradually replaced by the scientific method and empirical observation advocated by figures such as Galileo Galilei, Nicolaus Copernicus, and Francis Bacon.

1.4 Precursors to the Scientific Revolution

1.4.1 Intellectual and Cultural Developments

1. Renaissance Humanism: Humanist scholars during the Renaissance period revived interest in classical Greek and Roman texts, focusing on the importance of human reason and the pursuit of knowledge. They emphasized the value of individualism and critical thinking. One prominent humanist figure was Leonardo da Vinci, who integrated his artistic pursuits with scientific observations. His meticulous anatomical drawings, such as "The Vitruvian Man," reflected a humanist approach to understanding the human body.
2. Islamic Scholarship: Islamic scholars in the Middle Ages played a crucial role in preserving and expanding knowledge from the classical world. They translated and commented on works of ancient Greek philosophers, including Aristotle and Ptolemy. One notable example is the Persian polymath Ibn al-Haytham (known as Alhazen in the West), who made significant contributions to optics and the scientific method. His work on optics, "Kitab al-Manazir" (Book of Optics), laid the foundation for the modern understanding of light and vision.
3. Medieval Scholasticism: Scholasticism, a dominant intellectual movement in medieval Europe, sought to reconcile Christian theology with classical philosophy. Scholastic thinkers, such as Thomas Aquinas, integrated Aristotelian philosophy into Christian theology, emphasizing the use of reason to understand the natural world. Aquinas's work "Summa Theologica" exemplifies the synthesis of faith and reason, influencing later scholars to explore the compatibility between religious beliefs and scientific inquiry.

4. Technological Advances: Technological advancements in the 15th century played a crucial role in the spread of knowledge. Johannes Gutenberg's invention of the printing press allowed for the mass production of books, making knowledge more accessible to a wider audience. This facilitated the dissemination of scientific ideas and discoveries. For instance, the printing press enabled the widespread distribution of Copernicus's groundbreaking work, "De Revolutionibus Orbium Coelestium" (On the Revolutions of the Celestial Spheres), which presented the heliocentric model of the solar system.
5. Navigational Explorations: The Age of Exploration in the 15th and 16th centuries led to extensive maritime expeditions and encounters with new cultures and knowledge. Explorers and navigators developed improved navigational instruments and techniques to accurately chart their voyages. An example is the astrolabe, an instrument used for measuring the positions of celestial objects, which aided in navigation and cartography. The increased accuracy in mapping and charting facilitated further scientific exploration and understanding of the Earth.
6. Copernican Revolution: Nicolaus Copernicus's works in the early 16th century challenged the prevailing geocentric model, which positioned Earth as the centre of the universe. Copernicus proposed a heliocentric model, placing the Sun at the centre with the Earth and other planets revolving around it. His revolutionary ideas sparked debates and further scientific investigations. While Copernicus's work faced resistance during his time, it paved the way for subsequent astronomical discoveries and laid the foundation for the Scientific Revolution.

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SAQ

What were the cultural and intellectual factors that contributed to the emergence of the Scientific Revolution during the 16th to 18th centuries? (40 word)

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6.4.2 The Beginning of the Scientific Revolution

The scientific revolution in Europe had its origins in the advancements made in the field of astronomy. One of the key

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figures in challenging the prevailing Aristotelian cosmology and initiating this revolution was Nicolaus Copernicus, a Polish astronomer.In Copernicus' seminal work, "De Revolutionibus Orbium Coelestium" (On the Revolutions of the Celestial Spheres), published in 1543, he proposed a heliocentric model of the universe. According to Copernicus, the Sun was at the center of the solar system, and the planets, including the Earth, orbited around it. This heliocentric model marked a significant departure from the geocentric view that had dominated Greek and medieval cosmology.Copernicus' heliocentric model offered a simpler and more elegant explanation for the observed motions of the planets compared to the geocentric model. However, his ideas faced considerable opposition, particularly from the religious and intellectual establishment of the time, who adhered to the geocentric view endorsed by the Catholic Church. Despite the opposition, Copernicus' work set the stage for a new way of understanding celestial motions and paved the way for the scientific revolution. It challenged the authority of ancient Greek thinkers, such as Aristotle and Ptolemy, whose geocentric ideas had been widely accepted for centuries.

The subsequent advancements in observational astronomy played a crucial role in propelling the scientific movement forward. One of the most prominent astronomers of this era was Galileo Galilei, an Italian scientist. Galileo's use of the telescope revolutionized astronomy and provided further evidence in support of Copernican heliocentrism.Galileo made groundbreaking observations that directly contradicted the geocentric worldview. He discovered the presence of four moons orbiting Jupiter, observed the phases of Venus, and documented the rough and uneven surface of the Moon. These empirical observations challenged the traditional view that all celestial bodies revolved around the Earth.

Galileo's observations and his staunch defense of the Copernican model faced vehement opposition from the Catholic Church. In 1616, the Church condemned heliocentrism as contrary to Scripture, and in 1633, Galileo was put on trial by the Inquisition and forced to recant his heliocentric views under threat of imprisonment.Despite these challenges, Galileo's work had a profound and lasting impact on the development of modern science. His use of the telescope and his emphasis on empirical

evidence and observation laid the foundation for the scientific method, which became the cornerstone of the scientific revolution. The scientific revolution extended beyond astronomy and influenced various fields of science, including physics, biology, and chemistry. Scientists and thinkers began to question traditional authorities and rely on direct observations, measurements, and experimental verification to understand the natural world. This shift in thinking marked a departure from the deductive and reasoning-based approach of ancient Greek thinkers like Aristotle and introduced a new era of empirical science.

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1.5 Role of the Disciplines in Shaping the Scientific Revolution

1.5.1 developments in Physics and Chemistry

The scientific revolution stands as a monumental period of transformation in our understanding of the natural world. Spearheaded by exceptional scientists like Isaac Newton and Robert Boyle, this era brought forth groundbreaking ideas and groundbreaking experiments that not only revolutionized specific fields of study but also laid the very foundations of modern science. This section will delve into the profound contributions of Newton and Boyle, exploring their key achievements and the lasting impact they had on scientific thought.

Isaac Newton, a polymath of extraordinary talent, made extraordinary contributions to the scientific revolution. His insights into motion and gravity reshaped our understanding of the physical universe. In 1687, Newton published his magnum opus, "Mathematical Principles of Natural Philosophy." Within this seminal work, he introduced his three laws of motion. These laws laid the groundwork for comprehending the fundamental principles that govern the movement of objects. Newton's first law, the law of inertia, stated that objects remain at rest or in uniform motion unless acted upon by an external force. The second law quantified the relationship between force, mass, and acceleration. Lastly, the third law established the principle of action and reaction, emphasizing that for every action, there is an equal and opposite reaction. Newton's laws of motion not only elucidated the mechanics of everyday life but also provided the necessary framework for advancing physics as a scientific discipline.

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Another significant contribution of Newton was the law of universal gravitation, which revolutionized our understanding of celestial bodies and their interactions. Newton proposed that all objects in the universe exert gravitational attraction on one another. According to this law, the force of gravity is directly proportional to the product of their masses and inversely proportional to the square of the distance between them. By unifying terrestrial and celestial mechanics, the law of universal gravitation provided a comprehensive framework for explaining the motion of planets, moons, and other celestial bodies. It marked a departure from the prevailing geocentric view and firmly established heliocentrism as the correct model of the solar system.

Apart from Newton, Robert Boyle, an eminent natural philosopher and chemist, made significant contributions to the scientific revolution, particularly in the field of chemistry. Boyle's pioneering work laid the foundation for modern chemistry. In 1662, Boyle discovered the relationship between the volume and pressure of a gas, a principle now known as Boyle's Law. He observed that, at a constant temperature, the volume of a gas is inversely proportional to its pressure. This crucial insight paved the way for understanding the behavior of gases, enabling scientists to make accurate predictions about changes in volume and pressure. Boyle's Law became a cornerstone of gas laws and greatly influenced the development of the kinetic theory of gases.

Boyle championed the use of empirical methods and experimentation in scientific inquiry. He stressed the importance of conducting controlled experiments and making precise measurements to derive accurate conclusions. By emphasizing empirical evidence and systematic observation, Boyle introduced a rigorous approach to scientific investigation. His insistence on replicable experiments laid the groundwork for the scientific method, establishing it as a reliable framework for acquiring knowledge in various scientific disciplines.Boyle's invention of the air pump in the mid-17th century revolutionized experimental science. This device allowed him to create vacuums and manipulate gas pressure, enabling him to conduct a wide range of experiments. With the air pump, Boyle explored the behavior of gases, investigated the effects of reduced air pressure on living organisms, and conducted groundbreaking experiments on the properties of air

and combustion. His empirical observations paved the way for significant advancements in pneumatics and our understanding of the physical properties of gases.

The contributions of Isaac Newton and Robert Boyle to the scientific revolution were nothing short of extraordinary. Newton's laws of motion and his law of universal gravitation provided a comprehensive framework for understanding the mechanics of the physical world. Boyle's insights into gas behavior, his experimental approach, and his invention of the air pump advanced the field of chemistry and established a rigorous scientific methodology. These visionary scientists challenged existing paradigms, expanded the frontiers of knowledge, and left an indelible mark on the scientific community. Their legacies continue to shape modern science and serve as a testament to the transformative power of the scientific revolution.

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Stop to Consider

Alchemy in the Middle East

The origin of alchemy in Egypt and the Middle East can be traced back to ancient times, encompassing a rich history that spans several centuries. Alchemy emerged as a precursor to modern chemistry, blending scientific inquiry with philosophical and mystical elements. In Egypt, alchemy has its roots in the Hellenistic period, when Greek ideas and knowledge were integrated with Egyptian beliefs and practices. The city of Alexandria became a thriving center for alchemical studies, drawing on the wisdom of both cultures. The Egyptian influence on alchemy emphasized the transformation of matter and the search for the "elixir of life" or the "philosopher's stone," which was believed to grant immortality and transmute base metals into gold.

The Middle East played a significant role in the development of alchemy. The ancient civilizations of Mesopotamia and Persia had their own traditions of mystical and practical knowledge, which influenced alchemical thought. The Persian alchemist Zosimos of Panopolis, who lived during the 3rd century CE, is considered one of the early pioneers of alchemy. His works explored the purification of the soul and the transmutation of metals.

One of the key contributions of alchemy in Egypt and the Middle East was the development of laboratory techniques and apparatus. Alchemists in this region made important advancements in distillation,

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sublimation, and various chemical processes. They also created elaborate symbols and coded language to conceal their knowledge from the uninitiated. Moreover, alchemy in Egypt and the Middle East encompassed a spiritual and metaphysical dimension. Alchemists believed that the pursuit of physical transmutation was intimately connected with the transformation of the self and the attainment of spiritual enlightenment. This blend of science, mysticism, and spirituality influenced alchemical practices in the region. The knowledge and wisdom of alchemy eventually spread to Europe during the medieval period, where it underwent further development and integration with Christian and Hermetic traditions. Alchemical texts from Egypt and the Middle East were translated into Latin, preserving and disseminating the ideas that originated in these ancient cultures.

1.5.2 Institutionalisation of Science- The Royal Society

The Royal Society is one of the oldest and most esteemed scientific institutions in the world. It was founded in 1660 in London, England, following a series of informal meetings held by a group of natural philosophers who sought to establish a platform for the promotion of scientific knowledge. This group included notable figures such as Christopher Wren, Robert Boyle, John Wilkins, and Isaac Newton.

The society was granted a royal charter by King Charles II of England in 1662, formalizing its establishment and giving it the official title of the Royal Society of London for Improving Natural Knowledge. The charter outlined the society's mission to promote and support scientific research, knowledge dissemination, and scientific advancement. During its early years, the Royal Society played a pivotal role in the scientific revolution that was taking place in Europe. It provided a platform for scientists and intellectuals to share their findings, discuss theories, and conduct experiments. The society's meetings, held weekly, were known as the "Invisible College" and later became more structured, leading to the formal establishment of the Royal Society.

The Royal Society's work encompasses a wide range of activities aimed at advancing science and its applications. Here are some key aspects of their work:

1. Scientific publications: The Royal Society publishes several scientific journals, including Philosophical Transactions, which

started in 1665 and is the world's longest-running scientific journal. It covers a broad range of scientific disciplines and continues to publish cutting-edge research.

2. Research funding: The Royal Society provides grants and funding opportunities to support scientific research across various fields. These grants range from supporting early-career researchers to funding large-scale projects and collaborations.
3. Fellowships: The Royal Society elects scientists, engineers, and technologists to become Fellows of the society. Fellowship is a prestigious recognition bestowed on individuals who have made significant contributions to their respective fields. Fellows actively contribute to the society's activities and play a role in shaping its direction.
4. Science policy and advocacy: The Royal Society engages with policymakers and governmental bodies to provide expert advice on scientific matters. They work to ensure that scientific evidence and expertise are incorporated into policy decisions and to advocate for the value and impact of science in society.
5. Scientific meetings and events: The Royal Society organizes conferences, symposiums, and public lectures that bring together scientists, policymakers, and the public to exchange ideas and discuss scientific advancements. These events promote interdisciplinary collaboration and facilitate knowledge-sharing.
6. Science education and outreach: The Royal Society is committed to promoting science education and public understanding of science. They support educational programs, initiatives, and resources to inspire and engage the next generation of scientists. They also organize outreach activities and events to communicate scientific discoveries to the wider public.

Throughout its history, the Royal Society has been at the forefront of scientific progress and has played a significant role in shaping the development of scientific disciplines. Its members have made groundbreaking discoveries and contributions in fields such as physics, chemistry, biology, mathematics, and engineering. The Royal Society continues to be an influential institution that fosters scientific excellence, collaboration, and innovation.

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1.6 Other Disciplinary Influences

1.6.1 Philosophy During the Revolution

During the Scientific Revolution, philosophers played a pivotal role in transforming the prevailing understanding of the world and reshaping the methods through which knowledge was acquired. Their contributions can be seen in several significant ways:

1. Epistemology and Methodology: Philosophers like Francis Bacon and René Descartes played a crucial role in shifting the focus from relying solely on traditional authorities to emphasizing the importance of empirical observation and experimentation in acquiring knowledge. They advocated for a systematic and methodical approach to scientific inquiry, encouraging scientists to carefully observe and experiment to gather evidence. This emphasis on empirical evidence laid the groundwork for the development of the scientific method, a systematic approach to investigating the natural world that is still widely used today.
2. Natural Philosophy: Before the advent of modern science as we know it, the study of the natural world was referred to as "natural philosophy." Philosophers such as Galileo Galilei and Johannes Kepler made significant contributions to this field by challenging and overturning long-held Aristotelian views. They conducted experiments and made observations that defied traditional beliefs, such as the notion that the Earth was the centre of the universe. Galileo's use of the telescope and Kepler's laws of planetary motion were groundbreaking advancements that laid the foundation for modern physics and astronomy.
3. Theoretical Frameworks: Philosophers played a crucial role in providing theoretical frameworks that guided scientific investigations. For instance, Isaac Newton's monumental work, "PhilodophiaNatrualisPrincipia Mathematica", revolutionized physics and laid the foundation for classical mechanics. Newton's laws of motion and universal gravitation were built upon his philosophical understanding of the nature of space, time, and motion. His mathematical framework

provided a unifying explanation for the motion of objects on Earth and in the heavens.

4. Metaphysical and Cosmological Implications: The scientific discoveries and advancements during the Scientific Revolution had profound implications for metaphysical and cosmological debates. Philosophers like René Descartes and Thomas Hobbes engaged in these discussions and attempted to reconcile the new scientific knowledge with their philosophical frameworks. Descartes, for example, developed a dualistic philosophy that separated the mind and body, while Hobbes used his materialistic worldview to explain human behavior and society.
5. Promotion and Dissemination: Philosophers served as important intermediaries between scientists and the wider intellectual community. They played a vital role in popularizing scientific ideas and translating complex scientific concepts into more accessible language. Through their writings and discussions, philosophers such as Voltaire and John Locke helped spread scientific knowledge and promote the ideals of the Enlightenment, a cultural and intellectual movement that emphasized reason, progress, and the importance of science in shaping society.

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1.6.2 English Literature and the Scientific Revolution

During the Scientific Revolution, there was a profound shift in the way people understood the natural world. While the primary focus of the Scientific Revolution was on scientific inquiry and discovery, it also had an impact on literature and the arts. Writers, poets, and essayists of the time engaged with the ideas and themes emerging from the scientific advancements, reflecting and responding to the changing intellectual landscape. Alexander Pope, an influential poet and essayist of the 18th century, was one such figure who incorporated scientific concepts into his works.

Alexander Pope (1688-1744) was an English poet known for his satirical works, philosophical poems, and literary criticism. His writing style combined wit, humor, and keen observation, often addressing moral, social, and philosophical themes. While Pope was not a scientist himself, he engaged with scientific ideas and concepts of the time, incorporating them into his works to provide

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commentary on human nature and the human condition.Pope's poem "An Essay on Man" (1733-1734) is one of his notable works that reflects the influence of the Scientific Revolution. In this philosophical poem, Pope explores the nature of humanity, the existence of God, and the relationship between humans and the natural world. He draws on ideas from natural philosophy (the precursor to modern science) and the concept of a rational and ordered universe. Pope presents a "great chain of being," influenced by the hierarchical view of the universe prevalent during the Scientific Revolution, which suggests an interconnectedness between all aspects of creation.In "An Essay on Criticism" (1711), Pope explores the principles of good literary criticism. While not directly addressing scientific ideas, Pope's emphasis on reason, balance, and harmony in literature reflects the intellectual climate of the Scientific Revolution. The emphasis on rationality and the pursuit of knowledge was a central aspect of scientific inquiry during that time.

While Alexander Pope stands out as a significant poet and essayist of the period who engaged with scientific themes, he was not alone. Jonathan Swift (1667-1745), an Anglo-Irish writer best known for his satirical works, was also influenced by the scientific developments of his time. Like Alexander Pope, Swift engaged with scientific ideas and incorporated them into his writings, using satire to critique and comment on the societal implications of scientific progress.

One of Swift's most famous works, "Gulliver's Travels" (1726), is a satirical novel that reflects his response to the intellectual and scientific advancements of the era. In this work, Lemuel Gulliver embarks on a series of voyages to fictional lands, encountering strange and extraordinary societies. Swift uses these imaginative settings to satirize various aspects of human nature and society, including the pursuit of knowledge and the potential dangers of unchecked scientific progress.In "Gulliver's Travels," Swift offers a critical perspective on the emerging fields of natural philosophy and experimental science. He satirizes the scientists of Laputa, a floating island, who are so absorbed in their abstract theories and impractical experiments that they are disconnected from the real world. This portrayal criticizes the detachment of scientists from the practical applications and human implications of

their research.Furthermore, Swift's depiction of the experiments conducted by the Academy of Lagado parodies the excessive focus on minutiae and trivial details in scientific investigations. He mocks their futile attempts to extract sunbeams from cucumbers or turn feces into food, highlighting the absurdity and impracticality of some scientific pursuits.

Swift's satire in "Gulliver's Travels" is not a rejection of science itself, but a critique of how it can be misused or disconnected from human concerns. He questions the ethical implications and societal consequences of scientific advancement, urging readers to consider the ethical and moral responsibilities that accompany scientific progress.In addition to "Gulliver's Travels," Swift's other works also engage with scientific ideas. In his satirical essay, "A Modest Proposal" (1729), Swift proposes a shocking solution to address poverty and overpopulation in Ireland. While not directly related to scientific developments, the essay showcases Swift's ability to use satire to shed light on societal problems and challenge conventional thinking.

Jonathan Swift's writings demonstrate a keen awareness of the scientific and intellectual climate of his time. He used satire as a means to provoke thought and critique the potential dangers or ethical lapses that could arise from scientific advancements. By incorporating scientific themes into his works, Swift contributed to the broader discussions and debates surrounding the impact of science on society during the Enlightenment and the Scientific Revolution.

SAQ

How did the Scientific Revolution influence literature during the 16th to 18th centuries? (40 words)

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Stop to Consider

The Enlightenment and the Scientific Revolution

While the Enlightenment and the Scientific Revolution share some overlapping ideas and historical context, they are distinct periods and intellectual movements with different emphases and goals. The Scientific Revolution refers to a specific period in the 16th and 17th centuries when there was a significant shift in scientific

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thinking and methodology. It was marked by advancements in fields such as astronomy, physics, mathematics, and biology, as well as the development of empirical observation, experimentation, and the application of mathematical principles to natural phenomena. Prominent figures of the Scientific Revolution include Nicolaus Copernicus, Galileo Galilei, Johannes Kepler, and Isaac Newton. The Scientific Revolution primarily focused on advancing knowledge in the natural sciences and revolutionizing scientific methods and theories.

On the other hand, the Enlightenment refers to a broader intellectual and cultural movement that emerged in the 17th and 18th centuries. It encompassed a range of disciplines, including philosophy, political theory, literature, and social sciences. The Enlightenment was characterized by a belief in the power of reason, the importance of individual rights and freedoms, and a critical approach to traditional authority and institutions. Enlightenment thinkers sought to apply reason and scientific methods to understand and improve society, politics, and human nature.

While the Scientific Revolution laid the groundwork for the Enlightenment by promoting the importance of empirical observation and reason, the Enlightenment went beyond the scientific realm to address broader philosophical, political, and social issues. The Enlightenment emphasized the application of reason and critical thinking to challenge traditional beliefs, promote human rights, advocate for religious tolerance, and reform social and political structures. Enlightenment thinkers like John Locke, Voltaire, Jean-Jacques Rousseau, and Immanuel Kant played key roles in shaping the movement.

In summary, while the Scientific Revolution can be seen as a precursor to the Enlightenment, the Enlightenment encompassed a broader range of intellectual and cultural developments. The Scientific Revolution primarily focused on advancements in the natural sciences, whereas the Enlightenment incorporated scientific principles into a wider range of disciplines and sought to apply reason to societal and political issues.

1.7 Legacy of the Scientific Revolution

The Scientific Revolution had a profound and far-reaching impact on various aspects of human society. Its legacy can be observed in the realms

of science, philosophy, technology, and even social and political systems. Here are some key aspects of the legacy of the Scientific Revolution:

1. **Empirical and Experimental Approach:** The Scientific Revolution challenged the traditional modes of knowledge acquisition, such as reliance on ancient texts and philosophical speculation. It emphasized empirical observation, experimentation, and the use of mathematics to understand the natural world. This approach laid the foundation for modern scientific inquiry, establishing the importance of evidence-based reasoning and the scientific method.
2. **Advancement of Knowledge:** During the Scientific Revolution, numerous significant discoveries were made across various scientific fields. Scientists like Nicolaus Copernicus, Galileo Galilei, Isaac Newton, and Johannes Kepler made groundbreaking contributions that reshaped our understanding of the cosmos, astronomy, physics, and mathematics. Their discoveries revolutionized scientific disciplines and set the stage for further advancements.
3. **Development of New Scientific Institutions:** The Scientific Revolution led to the establishment of institutions dedicated to scientific research and education. Prominent examples include the Royal Society in England and the French Academy of Sciences. These institutions provided a platform for scientists to collaborate, exchange ideas, publish their work, and promote the advancement of knowledge. The tradition of scientific institutions continues to play a vital role in fostering scientific progress today.
4. **Spread of Scientific Methodology:** The Scientific Revolution popularized the scientific method, which involves systematic observation, experimentation, and the formulation of hypotheses. This methodology became a template for investigating natural phenomena and solving problems across various disciplines. Its influence extended beyond scientific research to other domains, such as social sciences and medicine, shaping the way knowledge is acquired and validated.
5. **Influence on Philosophy and Rationalism:** The Scientific Revolution had a profound impact on philosophy. René Descartes, for example, sought to establish a secure foundation for knowledge through rationalism and mathematical reasoning. His philosophical ideas, along with those of other thinkers of the period, emphasized

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the importance of reason and logic in understanding the world. This rationalist tradition continues to shape philosophical discourse to this day.

6. **Technological Advancements:** The Scientific Revolution spurred technological advancements that transformed society. Developments such as the telescope, microscope, and barometer revolutionized the study of astronomy, biology, and weather, respectively. Additionally, advancements in navigation and shipbuilding techniques facilitated exploration and trade, leading to the age of exploration and globalization.
7. **Social and Political Implications:** The Scientific Revolution contributed to significant social and political changes. The emphasis on reason, evidence, and individual inquiry challenged traditional authority and paved the way for the Enlightenment, a period characterized by questioning established institutions and advocating for individual rights, freedoms, and the pursuit of knowledge. These ideas played a crucial role in the development of democratic and egalitarian principles.

Overall, the legacy of the Scientific Revolution is marked by a shift from reliance on traditional beliefs and authority to an emphasis on empirical evidence, experimentation, and the pursuit of knowledge through reason. Its impact on scientific, philosophical, technological, and societal domains continues to shape our understanding of the world and the way we approach and solve problems.

Stop to Consider

The Theory of Evolution and the Scientific Revolution

The Darwinian theory of evolution and the Scientific Revolution are interconnected in the sense that Darwin's work built upon the foundations laid by earlier scientific advancements and philosophies that emerged during the Scientific Revolution. Darwin's theory of evolution, as presented in his book "On the Origin of Species," proposed that species evolve over time through a process of natural selection. He suggested that individuals within a population vary in their inherited traits, and those individuals with advantageous traits are more likely to survive, reproduce, and pass on their traits to the next generation. This process, known as natural selection, leads to the gradual adaptation

and diversification of species.Darwin's theory challenged traditional beliefs about the origin and diversity of species, which were prevalent during the time of the Scientific Revolution. Instead of viewing species as fixed and unchanging, Darwin argued for the idea that they are continuously evolving and adapting to their environments. This concept was a significant departure from the prevailing understanding and sparked both controversy and further scientific investigation.The Scientific Revolution set the stage for Darwin's theory of evolution by establishing a framework of scientific inquiry, evidence-based reasoning, and a spirit of skepticism toward traditional beliefs. Darwin's work on evolution extended this framework and brought forth new insights into the diversity of life on Earth. Darwin's theory was heavily influenced by the fields of biology, geology, and comparative anatomy, which had experienced significant advancements during the Scientific Revolution. His work drew upon observations of natural phenomena, comparative studies of different species, and the accumulation of evidence from various disciplines. Darwin's theory of evolution represented a continuation and progression of the scientific ideas and methodologies that emerged during the Scientific Revolution.In summary, the Darwinian theory of evolution and the Scientific Revolution are intertwined through a shared intellectual and cultural context. The Scientific Revolution provided the groundwork for the scientific methodology and critical thinking that Darwin employed in his study of the natural world. Darwin's theory of evolution, in turn, expanded upon and extended the scientific advancements of the Scientific Revolution, particularly in the fields of biology and the study of life's origins and diversification.

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1.8 Summing Up

The Scientific Revolution, which took place in the 16th and 17th centuries, was a pivotal period in the history of science. It brought about a profound transformation in the way people understood the natural world, shifting from reliance on traditional beliefs and ancient authorities to a focus on empirical observation, experimentation, and rational thinking.

During this time, a series of revolutionary discoveries and advancements occurred across various scientific disciplines, reshaping our understanding of the universe. Nicolaus Copernicus challenged the prevailing geocentric model by proposing the heliocentric theory, placing

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the Sun at the center of the solar system. Johannes Kepler formulated his laws of planetary motion, describing the elliptical orbits of planets and the relationship between their distances and orbital periods.Galileo Galilei, through his use of telescopes, made significant astronomical observations that supported the Copernican model, including the discovery of Jupiter's moons and the observation of the Moon's surface. He also contributed to the development of mechanics and the scientific method. Sir Isaac Newton's laws of motion, which included the principle of inertia and the mathematical relationships between force, mass, and acceleration, provided a comprehensive framework for understanding motion and laid the foundation for classical physics.

The Scientific Revolution was not limited to astronomy and physics. It also influenced philosophy and the methodology of scientific inquiry. Francis Bacon, an influential philosopher, emphasized the importance of empirical observation and experimentation as the basis for acquiring knowledge, promoting what is now known as the experimental method.

The establishment of scientific institutions, such as the Royal Society in London and the Academy of Sciences in Paris, played a crucial role in fostering scientific collaboration, sharing ideas, and disseminating new knowledge. These institutions provided platforms for scientists to present their work, exchange ideas, and collectively advance scientific understanding.

The Scientific Revolution revolutionized the way we perceive and investigate the natural world. It challenged traditional beliefs, embraced empirical evidence, and introduced a new era of scientific inquiry based on observation, experimentation, and mathematical reasoning. Its impact extended far beyond its initial period, paving the way for the rapid scientific progress that followed and shaping the foundation of modern science as we know it today.

Check Your Progress

1. In your opinion, which discovery or advancement during the Scientific Revolution had the most significant impact on scientific progress? (50 words)

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2. Do you think the Scientific Revolution was primarily driven by individual geniuses or a collective effort of scientists? (100 words)

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3. From your perspective, what were the positive and negative consequences of the Scientific Revolution? (100 words)

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4. In your opinion, how did the Scientific Revolution influence society's perception of the natural world and its relationship with science? (100 words)

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Unit 2 : Ideas of the Enlightenment

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Unit Structure:

2.1 Objectives:

This unit intends to take you over the period called the "Enlightenment" whose origins may be traced to an earlier time (in some cases, to the Renaissance) and which prevailed till the late eighteenth century.

The matter presented here will guide you in such a manner that by the end of the unit, you should be able to

- *identify* the thinkers whose ideas created the movement called the 'Enlightenment'
- *understand* the ideas as well as the thinkers' individual contributions
- *relate* these ideas to their social and political environment *connect* these ideas within a single meaningful pattern collectively called the 'Enlightenment' which helped to give literary writing a new direction

2.2 Introduction

When we talk of 'enlightenment' in the normal sense, we refer to a higher state of mind than the usual. We often mean by it a condition of knowledgeable and tolerant understanding. The term, 'Enlightenment', when used in a similar, yet limited sense in the study of English and

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European history, refers to the period which begins towards the end of the 'Age of Reason' in the seventeenth century, around 1680 . In its wider meaning, the Enlightenment includes the 'Age of Reason' and is seen to continue through the eighteenth century and then finally leading to the period of 'Romanticism'. However, the phrase, "age of reason", is now less in use as the Enlightenment is acknowledged to have consisted of more than any single tendency. The Enlightenment took in diverse areas in its intellectual ambit, including art, religion, philosophy, literature, language, and political theory.

In the study of social history it becomes very difficult sometimes to differentiate between what is merely 'political' from the clearly 'economic' or 'social' and 'cultural'. In just this sense, Enlightenment thought is to be seen in the rise to power of the bourgeoisie, especially through the French Revolution of 1789 and succeeding revolutions in Europe, and the rise of liberalism. It can even be seen that if we identify 'Enlightenment' with 'reason' as a human faculty of seeking knowledge, and with a general attitude towards life, then perhaps we have to remember that this had its roots in the socio-economic where banking, trade, commerce, and manufacturing called for new, rational attitudes.

The period is not extremely long but it is full of events, especially intellectual events, which both reflected and precipitated other events in the social and political spheres. As with all historical movements, the Enlightenment has to be known as the time when deeper changes at the level of social structure and economics took place as well as at the level of philosophy. Our purpose here is to look at those changes in European thought which occurred in the Enlightenment and which gave rise to ideas collectively described as 'scientific method' and which are so often identified as being a part of 'modernity'. Enlightenment thought has profoundly shaped the world familiar to us because it was founded on a scientific vision of the universe.

What is meant by 'modernity'? Is it different from 'humanism', or the 'medieval'? Why does the term occur here?What is the 'Age of Reason?

"Modernity" has been understood to mean a historical period which comes after the medieval ages, if we trace it back to its earliest beginnings. Some scholars even accept 1492, the date of Christopher Columbus' landing in the 'New World' as the beginning of "modernity". Many scholars accept the period of the Renaissance as heralding the "modern". The eighteenth-century is most widely accepted as the time when our own 'modern' period really began. In many ways this is easy to understand because many scientific advances were made at this time. Besides, some

familiar concepts such as the stress on rationality, the opposition of science to religion and the stress on empirical experience, all of which are often associated with 'modern' thinking , date back to this time.

'Humanism' is associated with the Renaissance because the term is used to describe what happened to learning and scholarship as well as to art and literature at the end of the Medieval Ages. "Medieval" is the historical period which precedes the Renaissance—'Renaissance' meaning 'rejuvenation', 'revival' or 'resurgence' points to an emphatic difference between the two time-spans. So 'humanism' is the shift in thought which occurred with the Renaissance, while 'modernity' may be seen as one of its consequences and even its extension.

The term "modernity" almost always enters into any discussion of the Enlightenment since it is often taken to be the start of the 'modern' period. The 'Age of Reason' can be seen to be both a part of the Enlightenment as well as to precede it. This depends on how we think of the Enlightenment itself. It can be thought of as a long period which starts in the seventeenth century with the work of thinkers like Pascal, Descartes, Montaigne, Leibniz and Spinoza where we find the attempt to understand the sources of human knowledge by looking at human reason, or logic and rationality.

SAQ

Is the name 'Enlightenment' given to the 'Age of Reason' or some time beyond that ? (30 words)

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What can be some of the reasons for differentiating this movement from others? (30 words)

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What is the link between the 'Age of Reason' and the Enlightenment? (40 words)

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Why do we identify 'modernity' with 'scientific temper' ? (30 words)

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2.3 The Early Thinkers

One can see from all of the above that 'Enlightenment' refers to mainly a time of changes in the history of ideas. A general description applicable to Enlightenment thinkers is that they all, in their various ways, saw themselves as leading a movement towards humanitarian intellectual and social progress, releasing human thought from irrationality and institutions of prejudice and thus to help create a society based on recognizable ideals of freedom, tolerance and reason.

The thinkers whose ideas helped to create the profoundly radical movement of the Enlightenment include many who lived in the seventeenth-century. Sir Francis Bacon (1561-1626) provided the stress on inductive reasoning which helped to sustain a move towards Empiricism. Besides his *Advancement of Learning* of 1605 in which he surveyed the field of human knowledge and upheld the realization that memory, imagination and reason were the sources of human learning, Bacon's other famous philosophical work was *Novum Organum* of 1620. These two major philosophical works by Bacon contained the formulation of his method of induction whereby he aimed at showing that induction, as a modern scientific method, was more effective in giving us knowledge than the medieval method of deduction which was based on a priori reasoning and traditional authority. In *Novum Organum* he laid down that actual observation of nature was crucial to obtaining knowledge. He pointed out that logical propositions could be untrue even though the syllogism may be coherent and properly structured. Thus knowledge can come only out of "true induction", when reason is grounded in facts.

In his conception of the "tree of knowledge", history proceeded from the faculty of memory, poetry from that of imagination, while reason helped in the rise of philosophy. At the same time Bacon gave importance to experience. In the 'aphorisms'(or, short sayings) which he set down in the *Novum Organum*, Bacon spoke of the need to "begin anew from the very foundations" if scientific knowledge was to make any progress. He stressed on the inductive method which involves using a variety of examples for proof and thereby arriving at general axioms. Bacon asserted the need to begin anew from the alternative foundation of "true induction", even though systems of thought had been adhered to for centuries. He warned of the "idols" or false ideas which had misled human thought till the present.

Stop to Consider:

"*Baconian spirit*" or "*Baconian method*"

Bacon is identified with Empiricism because he named experience itself as providing the foundation of certain knowledge and also because he includes the idea of variety of instances. Bacon inspired the Enlightenment through his systems of classification of experience called "tables of discovery". His method consisted of three steps: a description of facts, followed by their tabulation or classification into presences or absences or varying presences, then the rejection of what is not connected with the tables.

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But Bacon, who concerned himself with the domain of 'knowledge', shows, in his writings, his willingness to consider the role of notions already present in our minds which mediate between external reality and our immediate experience of it. He classified the "idols" which shape thought into four categories. This gives us a link to the Enlightenment through the belief that knowledge can be improved upon but at the same time Bacon is very much of the Renaissance because of his emphasis on understanding the human aspect itself.

This shows that study of social history often requires us to trace linkages and continuities. In the 18th century the French Encyclopaedists adopted his classification of the sciences.

Well, then, the 'Enlightenment' now at least seems to have been a period to describe which we have to use a different set of words! That is a characteristic of much social history.

In these thoughts of Bacon we can trace the influence of Leonardo da Vinci, the famous genius of 15th century Florence (in Italy),whose pronouncements had inspired the Renaissance philosophers. Da Vinci's influence led specially to the empiricism of Bacon, the mechanistic philosophy of Hobbes, and Descartes' belief in mathematical explanation.

2.3.1. The Sources of Enlightenment thought

Europe, in the 18th century, was cosmopolitan in the sense that cultural traffic among the Europeans nations was prevalent. One factor contributing to this was the preeminence of the French language. The other common factor was the knowledge of classical literature. These were the two advantages which allowed 17th century Frenchmen to be culturally ascendant as well as to be

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tutors of 18th century Europe. Denis Diderot wrote to the Scottish philosopher David Hume, "I flatter myself, that I am, like you, citizen of the great city of the world." "A philosopher," wrote Edward Gibbon, "may consider Europe as a great republic, whose various inhabitants have attained almost the same level of politeness and cultivation." (He was the author of "The Decline and Fall of the Roman Empire" (1776-88).

Having been nurtured in classical ideas and languages, the scholars of the Enlightenment were aware of both the Christian as well as the classical cultural heritage. Their beliefs, however, being unsettled by newer ideas, some of these thinkers were inclined towards a neo-paganism. Art, literature, and architecture already relied on the standards of cultured taste while morality was to be based on reason.

Writers of the Enlightenment viewed their age in terms of relapse and revival even as they condemned the fanaticism of clerics or Gothic tastes. Jean d'Alembert wrote of a regeneration of ideas, and envisaged a return to reason and good taste in the "Preliminary Discourse to the Encyclopédie". The philosophes clearly saw that they were entering a new golden age while rediscovering the old.

Bacon, together with the French and the Dutch rationalist thinkers, René Descartes (1596 -1650) and Baruch Spinoza (1632 -1677), was a precursor of the Enlightenment. Medieval philosophy was challenged by all these three philosophers as they called into question the received systems of thought. Descartes' skepticism led him to doubt everything including the senses whose perceptions could be deceptive, processes of reasoning, and all that could be susceptible of doubt. From such an argument Descartes proceeded to the certainty that only the "I" could provide the "first principle of the Philosophy" which he had sought. Descartes posited his famous dualism distinguishing between the mind and the body according to which the mind 'thinks' while it is the body which belongs to the world of space, time and materiality. This was the route by which a mechanistic view of the world was thus introduced.

As a mathematician, Descartes modeled his philosophy of knowledge on the principles of mathematics which required that ideas be clear and distinct. Descartes' influence was strong on

Spinoza whose rationalism and unorthodox views caused him to be expelled from the Jewish community to which he belonged by birth. Spinoza believed in the importance of deduction and saw the universe in mechanistic terms but he differed from Descartes in not accepting his dualism but rather preferring to understand the universe in singular terms as composed of a single substance which, for him, was God. Mind and matter were the different refractions of this substance. For Spinoza, the mind and the body were inseparable.

Spinoza gave importance to the notion that individual freedom involved the effects of our emotions on us. With him we see a distinction between active and passive emotions which affect our activities and thus determine the extent to which we remain in bondage or find release from our circumstances in the world. Spinoza elevates the emotion which is "the intellectual love of God" to the highest level as it attends a metaphysical understanding of the nature of the world.

The two important strands of Enlightenment thought, rationalism and empiricism, are represented by Bacon and Descartes. Another important strand was materialism which is well represented by Spinoza's roughly contemporaneous British philosopher, Thomas Hobbes.

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2.4 British Empiricism

Empiricism, which is an important feature of Enlightenment philosophy, is identified also with the names of other thinkers like John Locke, David Hume and George Berkeley who are considered to represent the so-called school of British Empiricism. The work of John Locke (1632-1704) had an overriding influence on Enlightenment philosophy through its attempt to seek out "the origin, certainty, and extent of human knowledge", as he phrased it, in his *Essay Concerning Human Understanding* of 1690.

Locke placed sensation at the centre of his epistemology, i.e., he saw sensory impressions as leading to knowledge. He was concerned with the origins of "ideas" and the validity of ideas assuming that ideas are mental contents. In the seventeenth century, the word 'idea' came to mean something different from it had meant earlier. Locke's attempt was to define the true nature of ideas, to refute the theory of innate ideas, and to explain the relation of thought to language. For Locke, knowledge comes only from sense-experience and from reflection upon experience. As with Descartes,

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Locke was part of a seventeenth-century movement which rejected the earlier predominant view of the world, the Aristotelian view, and conceived of the material world as a great machine. Locke differs from Descartes in considering the senses themselves to be fundamental faculties which delivered knowledge in their own right. Locke upheld the notion that the mind is a *tabula rasa*, a blank slate on which is written our experience of the world. In this he departed from the Cartesian view that we have "innate ideas", seeing rather that our ideas originate in our experience of the external world. Such reflection on our mental operations gives us perception, thought, reason, belief and doubt. Knowledge issues thus from these two operations of sensation and reflection.

Locke's work was not confined to the subject of human nature but included the question of human political nature as well. In the same year, 1690, Locke also published his *Two Treatises on Civil Government*. His political philosophy had an enormous impact on contemporary thought. One aspect which can interest us is the notion that politics is a part of ethics which, again, is a science not dependent on experience. Locke's political arguments which stemmed from his system of epistemology upheld the ideal of a tolerant society.

Locke's philosophy is adumbrated in his use of the word 'idea' in relation to his category of 'sensitive knowledge'. For him, everything in the mind was an 'idea' and the term included thus thoughts, sensory images and even emotions. What is interesting for us is Locke's preoccupation with language and this is to be seen in the *Essay Concerning Human Understanding* where the use of words is dealt with as the subject of its book, entitled "Of Words". In his discussion of language, Locke really deals with the problem of classification and this, again, is a reflection of the seventeenth century movement towards a more scientific language. Locke arrives at the inference that classification is based on an element of arbitrariness-introducing a most, twentieth-century Saussurean concept!

Philosophies of language are a noteworthy feature of the eighteenth century. Locke's theory of language was related to his recognition that it is "the instrument of knowledge" and thus inevitably had an impact on literary criticism as did his empiricism. Scholars tend to the view that the writing of poetry thus came to a new preoccupation with exact description and concrete detail, or the "doctrine of particularity" forwarded by writers like Joseph Warton and Hugh Blair. Another aspect of Lockean empiricism led to the poetic representation of mental experiences, human psychology and "associationism".

Locke saw figurative language as linguistic "abuse" and even went so far as to call rhetoric, "a powerful instrument of error and deceit". Such views were criticised as being reductive and depriving language of its power to express or to be creative but they were really based on Locke's separation of the pursuit of knowledge and moral progress from pleasure and delight.

Locke's distinction between wit and judgment appear in Addison who popularized his philosophy. Addison proposed knowledge of Locke as a prerequisite for literary criticism. Locke's influence lies behind Addison's inquiries into imagination and aesthetic response.

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2.4.1. The extent of Locke's influence

"Mr. Locke has displayed the human soul in the same manner as an excellent anatomist explains the springs of the human body. He everywhere takes the light of physics for his guide. He sometimes presumes to speak affirmatively, but then he presumes also to doubt. Instead of concluding at once what we know not, he examines gradually what we would know." "Mr. Locke, after having destroyed innate ideas; after having fully renounced the vanity of believing that we think always; after having laid down, from the most solid principles, that ideas enter the mind through the senses; having examined our simple and complex ideas; having traced the human mind through its several operations; having shown that all the languages in the world are imperfect, and the great abuse that is made of words every moment, he at last comes to consider the extent or rather the narrow limits of human knowledge."

These passages are from the "Lettres Philosophiques" (1734) or "Letters Concerning the English" (1733) by the famous French thinker, Voltaire, which had created uproar as they were written in admiration of the institutions of the English nation. Voltaire devoted a greater part of his life to propagating the ideas of Locke and Newton. Locke was a dominant influence in French thought throughout the eighteenth century and is held to be the founding father of modern empiricism. He is also the founder of modern philosophical traditions in the English-speaking world. Locke's work is studied by historians even today for its political importance.

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SAQ

Would you consider Bacon's ideas revolutionary for his times ? (30 words)

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In what way can we connect Enlightenment thought with Renaissance philosophy ? (80 words)

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Turning to the other English Empiricists, we come to George Berkeley or Bishop Berkeley (1685-1783) who published *Treatise Concerning the Principles of Human Knowledge* (1710) and David Hume (1711-76) with his *Treatise of Human Nature* of 1739-40. Berkeley rejects Locke's belief in material substance. From Berkeley's standpoint the sensible world is a part of reality but it is to be accorded a secondary role in being dependent on the mind. His empiricism was a denial of abstract ideas because he rejected any distinction between objects and the sensory impressions of the mind. Berkeley saw the nature of the material world differently from Locke and Descartes. For him, the sensible world is 'real' but inert and subordinate to the mind. For Locke and Descartes, the material world, like a clock, would go on ticking even without God. For Berkeley, this was close to atheism because matter, in this sense, has aq nature and independent being of its own. Many philosophers before Berkeley had seen materialism as a source of atheism. According to Berkeley, sense-data are "objects for the mind" and not to be seen as the attributes of a substance. This, in turn, meant that 'substance' was simply a recurring group of sense qualities. Berkeley is considered to be the originator of the philosophical position in epistemology known as 'phenomenalism'.

Hume followed in the line of Locke and Berkeley in believing that knowledge had its source in sense-impressions. But Hume also proposed that the perceptions of experience do not prove a "self" which was unified or substantial and could therefore be seen as the subject which experiences. For him, the mind was simply "a bundle of perceptions" without unity or cohesiveness and

if there was uniformity in perception it was due to "an associating quality of the mind". The central point of his considerations was the idea of causality. For Hume, philosophy was the experimental, inductive science of human nature. Hume was interested in raising greater awareness of reality and the facts of experience. This endeavour is to be seen in an essay such as "Of the Standard of Taste" published in his volume *Four Dissertations* in 1757 where he considers the problem of subjectivism in artistic taste by appealing to experience.

A "self" implies a person, thus emotions and ideas, perceptions and all the qualities which are normally associated with 'person'. It also means that all these qualities are unified or integrated with such 'person' and not chaotic and incoherent. A 'subject' means a 'person' who perceives, thinks, feels; as opposed to 'object' which would be that which is being perceived or thought about. So what Hume concluded meant that perception by itself did not mean that there was a 'subject'(person) whose unified 'self' could give a guarantee of order or consistency.

Hume would say that if one seeks own identity by looking into one's own mind, what would be found is a perception, not any persistent self. Although we assume that we are continuous selves, we cannot actually locate this 'self' in experience or observation. Hume viewed the human self as a construction posited in a "succession of perceptions". The very idea of the human self is thus opened to doubt. Ultimately Hume, like Locke, rejected the Aristotelian concept of substance as the ground of reality.

A great figure of the Enlightenment was Sir Isaac Newton (1643-1727) whose achievements in the field of physics inspired many thinkers and intellectuals in this period. His *Philosophiae Naturalis Principia Mathematica* of 1687 is regarded as a seminal work of modern science and the symbol of the scientific revolution but which nevertheless did not reject the idea of a divine presence. In an age which searched for new ways to understand external reality the Newtonian method directed understanding "from the phenomena of motions to investigate the forces of nature, and then from these forces to demonstrate the other phenomena." The process seems almost circular. But we can see here that it means two things—to first discover the presence of natural forces. Secondly, to understand the kind of phenomena that will result from

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these natural forces at work. As with his later masterpiece of 1704, the *Opticks*, which showed how to discover the laws concealed in a subject by experimentally examining it, Newton's work might be said to have solved the problem of scientific method: the combining of empiricism (the legacy of Bacon) with the "axiomatic approach" of the Rationalists.

Check Your Progress:

What are the difference between 'Rationalism' and 'Empiricism'? (Hint: The conflict between these two poles of emphasis appears when the area of discussion is common to more than one field of thought. For instance, the two need not be in conflict when the subject in question is mathematics, that being an area where the rationalist approaches is appropriate. In some or all of the physical sciences we can be empiricists.)

2.5 Continental Rationalism

The philosophy that comes under the name of 'Continental Rationalism' is presided over by the figure of the French philosopher, **René Descartes (1596-1650)**. He is also known as the founder of modern philosophy and modern mathematics. We often remember Descartes by the famous phrase which he had used in his early work, *Discourse on Method* (1637), " I think, therefore I am" or *Cogito ergo sum*, in Latin. Descartes arrived at this formulation through the premisses of his argument which would lead him to indubitable propositions. The *Cogito* (as the formulation is also called) was, by Descartes' argument, the first fundamental certainty. Descartes based his method on the use of doubt, what is also called 'methodological skepticism', to achieve some fundamental principles which can be accepted as true without doubt. In other words he thought that the right way of searching for truth and making the search for truth into a systematic process was by searching for certainty. This led to the famous "Cartesian doubt" or doubt as method. This he deals with in his work, *Meditations on First Philosophy* (1641). The only certainty that he concludes with is the "I", i.e., the thinking self. Thus, *cogito, ergo sum*, or, "I think, therefore I am." The only knowledge that can be taken to be true is that one thinks.

Stop to Consider:

Descartes used the 'wax argument' to prove his point that the mind and the faculty of reasoning is reliable while the senses are not. The shape, texture, size and smell, of a piece of wax changes completely if brought near a flame. The senses show that these are no longer the same. But the mind knows that it is still the same piece of wax. The mind alone, not the senses, can help to grasp the real nature of wax. "Thus what I thought I had seen with my eyes, I actually grasped solely with the faculty of judgment, which is in my mind."

We should not leave out the historical connections of Cartesian doubt. When Descartes did his work in the 17th century, science in our sense did not exist, did not exist as an organised enterprise. There was a lot of scepticism around partly because after the Reformation many claims were made by different people about how religious truth could be found. Scepticism was an important part of the intellectual climate. But learning was also in the hands of the Church whose own leaders believed in ancient authority. A great deal of knowledge consisted largely of commentaries on ancient books. But Descartes' generation knew that historical authority was not the same as first-order inquiry. What Descartes himself engaged in was the search for the foundations of inquiry, the foundations of science.

Descartes rejected induction as a method in the construction of a system of knowledge, finding it unreliable, and upheld deduction. Like Copernicus, Johann Kepler, Bacon, and Galileo before him, Descartes was a scientist, a mathematician, inspired by the conviction that reason was the instrument by which the natural world could be conquered. Like Bacon, Descartes was moved by the belief that knowledge would deliver power and serve the purposes of practical life. Descartes defined philosophy in his *Principia Philosophiae* (or, *Principles of Philosophy*, of 1644) as "the study of wisdom" and related it to practical consequences using the famous metaphor of the tree of philosophy whose root is metaphysics and whose respective branches are morals, medicine, and mechanics.

Descartes was inclined towards mathematical explanation because it involved the principle of absolute certainty. His metaphysics was essentially based upon the principle of skepticism which employed systematic doubt, the principle of clarity and distinctness where no idea is acceptable if it is not clear and free of contradiction, and lastly, the principle of bed-rock certainty of self-consciousness or subjectivism.

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SAQ

How does the Cartesian Cogito express a sense of 'modernity'? (25 words)

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We can see that the Enlightenment is reaching far back into the 17th century! That should not upset our categories because in the history of ideas the continuities are of great importance. Can we separate classical Greek theories, like Aristotle's analysis of tragedy, from our discussions of English Renaissance drama? So Descartes is of great importance even in modern times, especially for students of science because he helped to create analytic geometry and calculus.

This intellectual history we are sketching here helps us to answer questions like why mathematics is such a necessary part of modern science. We can appreciate the problems that occupied these thinkers if we think of the importance of quantification (or measuring) and logicality (or deductive reasoning) both of which are integral to the mathematical sciences. By applying mathematical methods to the physical sciences one can make projections of what happens in nature. Descartes focused on knowledge and maintained a distinction between 'mind' and 'matter' which has come down to us as Cartesian dualism.

At the same time, we cannot ignore what was happening in the everyday world of social class, commerce, economic changes which must have had an impact on intellectual activity. Just remember that 1492 had already been passed by, the Reformation had already overtaken the Church, Church and the English State had already separated, many religious wars had already taken place in Europe, and so forth. This was also the era which saw the rise of capitalism and mercantilism which would mean a tendency to value nature as the repository of potential wealth.

Cartesian metaphysics gives us Rationalism in philosophy because it places truth and meaningfulness on the testing ground of the mathematical standards of clarity, distinctness and absence of contradiction. It means that scientific truth is finally decided by human reason. This is vastly different from Bacon's stance who had given the final authority to sense experience. Till the end of the 17th century, Cartesianism dominated intellectual life in the European continent. It found favour among the privileged classes and among the learned sections of society.

SAQ

How would you distinguish between Bacon's and Descartes' methods? (50 words)

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What could have been the implications of Descartes' highlighting the 'self'? (50 words)

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Gottfried Leibniz (1646-1716) was one who continued in the line of Cartesian philosophy. Both Leibniz and Baruch Spinoza (1632 - 77) or Benedictus de Spinoza, developed the rationalism of Descartes to create the school of thought known as 'Continental Rationalism'. Spinoza's masterpiece, *Ethics*, was published in 1677, after his death. The book is unique in that it is modelled directly on Euclid's geometry, using all the traditional apparatus of geometry (definitions and corollaries, "QED", for instance). By Descartes' definition, the only true substance is God. Spinoza saw the only true substance is the totality of what there is, that is, absolutely everything. As God is perfect, nature is not a by-product of God's activity. Nature is seen by Spinoza as the totality of what there is, God as identical with the totality of natural things, God and Nature as not distinct. In a sense, Spinoza's thought is centred on the mind-body division that Descartes had posed.

Leibniz contributed to philosophy his notion of 'monads', his equivalent of 'substance'at the level of individual, single, elementary units. The ultimate components of the world are not material; the real world is made up of an infinity of metaphysical points. To some extent Leibniz's view of nature comes close to incorporating the idea of motion or activity in it. Perhaps even more remarkably, Leibniz brought in the distinction between 'truths of reason' and 'truths of fact', a distinction which has become part of modern philosophy.

Some time from about 1689 to1742, Deist thought reached a climax in England. There had been some freedom of religious expression after the Glorious Revolution that brought William and Mary to the throne. Christian theology had conceived of human reason as being capable of corruption through sin. But in Renaissance humanism human reason was seen as being

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a faculty which could discern universal religious and moral truths. Reason could distinguish apart supernatural revelation from specific church teachings.

Deism refers to the set of beliefs which accept an inborn knowledge of religion or religious knowledge that can be acquired through the use of reason. Deism can be called natural religion, meaning thereby that it opposed the inborn religious knowledge to that acquired through the teaching of any church or any revelation. The Deists shared the contemporary intellectual tendency towards a faith in human reason, a turning away from religious claims of revelation which brought in dogmatism and intolerance and especially an image of God as the rational architect of an ordered world. The Deists propounded that a common rational core lay behind the world's different religions and universally accepted moral principles. Deism as an unorthodox religious attitude was expressed by a group of English writers: from Edward Herbert in the first half of the 17th century to Henry St. John, 1st Viscount Bolingbroke, in the middle of the 18th century. .

Check Your Progress:

1. What does the 'Enlightenment' consist of?

(Hints: Your answer should emphasize the thinkers and the ideas.)

2. Does it include more than just 'Rationalism and Empiricism' ?

(Hints: Don't miss out the political ideas !)

3. In what important way did the movement provide a challenge to religion ? How did it also bring in greater emphasis on the rational faculty of an individual ? How did this enable more democracy to be ushered in ?

(Hints: Take care to point out how learning went out of control of the hands of the clergy, how the 'individual' became important, and thus how the traditional centres of authority were challenged.)

4. How do we describe the difference between the Renaissance and the Enlightenment?

(Hints: A 'feature' of the Enlightenment would be its new 'scientific' temper. So would its empiricism'. The Renaissance is different primarily because it was dominated by its new 'humanism'.)

2.6 Emphasis On Reason

The philosophy of the Enlightenment, as we have seen, laid much emphasis on 'reason'. As Leibniz stated in1714, in his "Principles of Nature

and of Grace Founded in Reason": "True reasoning depends upon necessary or eternal truths, such as those of logic, numbers, geometry, which establish an indubitable connection of ideas and unfailing consequences." We can perhaps say that philosophical inquiry was stimulated by the belief that knowledge could be improved upon. In the earlier age, in the Renaissance and the late medieval times, the tendency had been to proceed by inferring from first principles. The belief in intellectual progress of Enlightenment thinkers was based on the accompanying faith in a divinely created world whose basic truths could be understood and helped by a Newtonian conception of a mechanical universe. Traditional modes of thought were challenged by the prompting of reason although both classical and medieval Christian thinkers had seen it as an important human faculty. But the Enlightenment insistence on reason was based on the argument that it was the only faculty capable of yielding knowledge. Here, reason was the instrument by which the well-ordered fundamental laws of nature could be deciphered. These cosmic laws held out the presence of a beneficent God, as Newtonian discoveries showed. A well-regulated Nature testified to the existence of an intelligent, supremely skilled divine God who, like a Watchmaker, had retreated from this world after having set it to run by permanent laws.

The belief in an orderly, rational and therefore a comprehensible universe meant the scope for the organisation of knowledge. Nature was ordered by universal laws whose workings guided how knowledge, especially of nature, was to be organised as we see with both Carolus Linnaeus (1707-1778) and Georges Leclerc, Comte de Buffon (1749-1804). Linnaeus' classification of the natural world gave us the "life sciences". Through the Renaissance there had been a new movement in the world of learning which had showed itself in clearer divisions in the broad field of philosophy. Renaissance philosophy found its three points of interest in: I)humanism, ii) political theory, and iii) philosophy of nature. In the eighteenth-century Enlightenment, man becomes an object of study within the perspective of natural history. David Hume, philosopher of the Scottish Enlightenment, had argued that the causes of regularities in phenomena could at best be conjectured or guessed at. All empirical observations of man thus contribute equally to knowledge of man.

In the *Systema Naturae*, Linnaeus placed man among all other living beings. The characteristic which distinguishes man from all the other animals here is the use of reason. Linnaeus' system was later criticized by Buffon

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who felt that the external characteristics alone could not be the basis of proper classification .

The great debate over Empiricism versus Rationalism concerns the extent to which we are dependent on our sense experience in our attempts to gain knowledge.The Empiricists claim that sense experience is the final source of all our knowledge. This is in contrast to the Rationalists' claim that knowledge is to be gained independently of sense- experience. If we move beyond the question of how we gain knowledge, the debate also brings in the question of proving the truth of a proposition about the world, or the problem of knowing that a statement about the world is true or correct. (The other related problem which we can see here is, what are the limits of knowledge?)

SAQ

What is the significance of the classification of knowledge? Give your view. (75 words)

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What can be meant by the 'science of man'? (70 words)

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How are these contributions linked to the larger Enlightenment? Attempt a connection. (50 words)

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2.7 'Man' And Society

We have to look at the work of **Thomas Hobbes (1588-1679)** as we recall that "the science of man"was a topic of debate among intellectuals of the age. Hobbes developed on what is also known as "social contract theory" and upheld that "the true doctrine of the Lawes of Nature is the true Morall philosophie". Hobbes published his *Leviathan*, considered to be his masterpiece, in 1651.

In England, political changes had already been seen in the important dates of 1649, 1660 and then 1688, to name just three important

junctures. These were the dates when firstly, Charles I had been beheaded, the two Cromwellian regimes had taken over the governance of the nation , and then the Restoration of monarchy when Charles II had returned to the throne. Hobbes had lived through the English Civil War and it is surmised that perhaps this experience made him advocate a strong authoritarian government in preference to the horrors of civil war. Hobbes's work, *Leviathan*, is now highly regarded as a work of political theory. What is interesting to note is that Hobbes saw the "state of nature"as "nasty, brutish, and short." Based on rational arguments Hobbes saw that society would gain from any form of government. He therefore proposed that effective government should have absolute authority. This is what is meant by 'absolutism'.

Hobbes represents the strain of materialism which is contained in Enlightenment thought. He shares with other Enlightenment thinkers the concern with the idea of an ideal state or theories of what might be called, "social contract". This meant to uphold the concept of rights and duties in terms of which the powers of a ruler would be circumscribed within a contractual agreement with the citizens of a state.

In literary terms, we have a famous argument against absolute authority in Milton's "Areopagitica". In this essay of 1644, Milton argued for the freedom of publishing or expression without pre-publication censorship. This essay has become the foundation of many arguments for democratic government. Inevitably,this was the period of English history when there were many debates regarding 'sovereignty'. However, we must remember that it would not be right to think that ideas and discussions of political theory came to the fore only due to immediate, historical events. As we have seen, political philosophy had already become important during the Renaissance since political authority had become more important than ecclesiastical or religious authority.

Remember that *The Prince* by Machiavelli was written in 1512-13. This was in Florence, Italy. Somewhat later, in France, Jean Bodin, developed a theory of national sovereignty. Hobbes himself was a tutor to Charles II and he had met Descartes, Galileo and Pierre Gassendi in Europe. The great Dutch jurist, Hugo Grotius, brought out his treatises on international law in the early 17th century.

2.8 Political Philosophy, 'Philosophes' & 'Philosophie'

Political philosophy provides one of the ways in which we can gain a deeper understanding of the Enlightenment. Voltaire (1694-1778) and

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Jean-Jacques Rousseau (1712-1778) were both important figures in the French chapter of this movement. Both these names are significant when we describe the Enlightenment, not only because they were two French 'philosophes' who stood for the achievements of the period. Both being French reminds us that it was indeed the French 'philosophes' who are often thought of as symbolizing the Enlightenment. The Enlightenment was not limited to France and it did have an effect all over Europe but the French Enlightenment is taken to be symbolic of the movement's highest achievements.

Like an earlier movement,- the Renaissance, -which had spread all over Europe, the Enlightenment, too, had its English, German, French, Italian, and other European chapters.When we remember that the French Revolution began in 1789, we can see that this great upheaval in France could be connected with the radical ideas that partly aided it by expressing a change in people's thoughts.

Voltaire's *Lettres Philosophiques* ('Philosophic Letters'; also known as the "English Letters") of 1733-34 caused a new ferment in political ideas. With his admiration for the institutions of English society, Voltaire launched his criticism of French society by highlighting religious freedom, freedom of expression and political institutions in England. These fictitious 'letters' are considered to demonstrate the workings of a 'modern' mind in that they espouse religious toleration and reveal Voltaire's belief in social progress. The work created a scandal with its publication because it expressed criticism of the French political and religious establishments. *In Éléments de la philosophie de Newton* (1738), Voltaire brought to the French public those discoveries of English science (as he greatly admired Newton's work) that only a few learned minds in France were familiar with. In the late 1730s Voltaire corresponded with the Crown Prince of Prussia (who later became Frederick II on accession to the throne in 1740). Voltaire supported an'Enlightened Absolutism' in which an enlightened monarch could help to bring about change and progress in society. His *Dictionnaire Philosophique* (1764) was his chief philosophical work while *Candide* (1759), a novel, is remembered for its criticism of Leibniz's philosophy. Voltaire took from his patron, Frederick the Great of Prussia, the motto, "Écrasez l'infâme" ("Crush infamy"). For Voltaire, 'l'infame' was closely identified with the church. He is remembered in France as the writer and thinker who championed civil liberties. Voltaire has been, later, made a symbol of the French Revolution.

Giambattista Vico (1668-1744), first interpreted the past in terms of the changing consciousness of mankind. His *Scienza Nuova* (1725; revised edition 1744) surveyed history as an organic process and saw the different ages in terms of their ethos. This meant the involvement of language, literature, and religion of each age. Each of these ages recur, and each is distinguished by mythology (the ages of the gods), heroic poetry (the heroic ages), and rational speculation (the human age) respectively. Vico saw human history not as a random series of events but as having been ordered by divine providence. His insights into poetry form part of his attempts to explain the development of human society. Vico's ideas incorporate Enlightenment ideals by finding equivalence between providence and human agency.

When Baron de Montesquieu, a judge, published his *Persian Letters* (1721)anonymously, he used the device of a foreigner who looks critically at French government. This was similar to what Voltaire had done in his *Lettres philosophiques*. Montesquieu's great work, *The Spirit of the Laws*, appeared in 22 editions within 18 months of publication in 1748. This was perhaps the most influential book on political theory. Here again he praised the English constitution and criticized the French ruler's ambitions of being absolute monarch. Montesquieu was more particularly concerned with the sanctity of human laws. He saw laws as necessary relationships derived from nature and not merely abstract rules . Influenced by both Locke's sensationalist psychology, and the philosophy of Giambattista Vico's *The New Science* Montesquieu tended to the idea that human society engenders values in the course of its development. He counted among the social factors which formed spirit, climate, religion, laws, the principles of government, the example of the past, and social practices and manners.

In believing knowledge to be a factor in shaping society Montesquieu was a typical thinker of the Enlightenment. His praise for the English led him to believe, incorrectly, that the English constitution was based on the separation of powers. Borrowing from Newton the idea of the static equilibrium of forces Montesquieu thought that despotism could be prevented and moral freedom was possible only in a condition where this principle was followed. This would lead to progress. However, many philosophes, then, believed in enlightened autocrats.

Jean-Jacques Rousseau (1712 - 1778) met Denis Diderot when he reached Paris at about the age of thirty. This was to result in the formation of a group of intellectuals or "Philosophes" who would help to publish the

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great French *Encyclopédie*, of which Diderot would subsequently be the editor. The challenge to religion which appeared here was unavoidable because almost all education was controlled by the clergy. But religion as symbolized by the Church was separate from God so the Enlightenment did not mean a turning towards paganism. Rousseau belonged to this set of intellectuals and being one of the most original in his thinking, together with his literary eloquence, he was defintely one who came to symbolize many of the ideals of the Enlightenment. The 'philosophes' were committed to the advancement of scientific thought as the basis of a new openness towards and an acceptance of a new enlightenment. One can see in this combination of a new turning towards 'science' as a mode of thought and a belief in the idea of 'progress', a crucial element of 'modernity'. More importantly, this work made its appearance in the years just prior to the French Revolution.

As the century progressed, it became customary to think of light as given out by secular knowledge and philosophy. So 'enlightened' came to mean an acceptance of or an inclination towards the new tendencies of thought. There was no conception of the Enlightenment as a movement except in German where the word 'Aufklärung' was used in our sense. In French the nearest equivalent was (and is) 'les lumières' and 'philosophie'. So now it becomes clear why the French intellectuals were called 'philosophes'!

The Encyclopedie was the result of inspiration provided by the two-volume *Cyclopaedia or An Universal Dictionary of Arts and Sciences* successfully brought out by Ephraim Chambers in 1728, London. Jean d'Alembert, the mathematician, and Denis Diderot, the philosopher, became the two editors and they published seventeen volumes of the work between 1751 and 1765. Altogether, the first edition of the *Encyclopedie* was made up of thirty-five volumes. This collection brought to its readers the new thinking in all branches of learning and trade and in effect acting as the spur to the critical, revolutionary thinking which culminated in the French Revolution. Contributors to the *Encyclopédie* were about 300 and many of its authors ridiculed what they thought were superstitions. They supported Enlightened opinions and even challenged royal absolutism. By the year of the Revolution, this magnificently illustrated and hugely comprehensive and expensive work had sold thousands of copies. Many had been sold outside France. The French Enlightenment was promoted quite significantly by this work of *philosophie*.

Writing and publishing critical views in the French Enlightenment was neither easy nor safe. There was always the threat of prosecution. In his

essay of 1784, "What is Enlightenment?", the German philosopher, Immanuel Kant, who was one of the foremost thinkers of the Enlightenment, said that if the question was asked whether his age was an enlightened one, the answer was no. But it would be right to say that his age was one of enlightenment. By this Kant was pointing to the process of growing enlightenment or the growth in new ideas and learning.

In the same essay, Kant also says that "Enlightenment is man's release from his self-incurred tutelage".The tutelage is "self-incurred" because men lacked the courage to doubt and to question. Kant equated "tutelage" with "man's inability to make use of his understanding without direction from another." Kant points to 'rationality' as the means to freedom. Freedom from what? From the servile obedience to rules and ideas laid down by the "guardians", i.e. the officer, the tax collector, the cleric, and sections of the aristocracy.

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SAQ

What is the explanation for the persistence of religion despite the new 'philosophie'? (50 words)

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2.9 Language & The Enlightenment

The Enlightenment can be thought of in terms of its language. In 1703, Baron de Lahontan spoke of the "noble savage" whose moral life was nurtured by a natural religion. This was a challenge to the professed godliness of the character of European values. The intellectual trends of the period, as in France, were brought together in the words used frequently, such as "Reason", "Nature", and "Providence". In 1780, the General Assembly of Clergy lamented the spread of 'philosophie': "the philosophes are no longer a party, they are popular opinion". In this sense, reason became something akin to common sense. Nature, after Newton, appeared as a system of intelligible forces. For Rousseau, 'nature' came with new significance, as in his *Discourse on the Origin of Inequality* (1755), he wrote: "We cannot desire or fear anything, except from the idea of it, or from the simple impulse of nature." Nature was here the condition of primeval innocence in which man was whole and unrestrained. It was almost the next step to the conception of Providence as benign, dependable, and benevolent.

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Such an idea of providence, however, was based on unscientific assumptions. It was a paradox in an age in which scientists, coloured by the hues of religion pursued researches that revealed a perhaps less comforting world. So the Enlightenment can be seen to be headed towards its own disintegration. Newton had speculated that divine intervention sustained regularity in the solar system. This was different from what D'Alembert found thus helping the assumption that God could very well be argued as being a divine Spectator. From the findings of geology, the history of the world was to become very different from what was to be gained from the Old Testament.

Scientists were disposed towards dispensing with God as a fundamental concept. God had begun to be restricted to the realm of faith. Atheism, as with Baron d'Holbach, would be the domain of reason now. In his *Système de la nature* (1770; "The System of Nature"), d'Holbach expressed the idea that there was no divine purpose: "The whole cannot have an object for outside itself there is nothing towards which it can tend." David Hume, author of *Treatise on Human Nature* (1739) and the *Dialogues Concerning Natural Religion* (1779) considered the notion of miracles to be repugnant to reason.

Such subtle arguments may have spread their influence only gradually. They did not inevitably lead to the abandonment of religion and the church. Despite philosophie , France could not neglect its more conscientious members of the clergy. However, given the influence of the philosophes, religion remained a topic of much thought. Theology did not suffer neglect. In 1770, French publishers brought out 70 books in defense of the faith.

In relation with literary criticism, what is notable about Enlightenment philosophy is that it generated many theories about language. We have seen Locke's views on figurative speech and we also find how his advocacy of empiricism prompted a new attention to sensory detail in the writing of poetry. It was a Lockean influence which contrasted with the neo-classical strains of Samuel Johnson and other writers that poetry could speak a universal language. Developments in science and philosophy which now became increasingly empirical gave a new direction to literature and criticism in this century. Locke's influence was to be seen in the distinction between wit and judgment, associating wit with poetry and pleasure and equating judgment with knowledge and philosophical clarity. Locke's influence was to be seen even in Johnson's famous *Dictionary* of 1755 where it is the denotative aspect of language which received greater attention. The empirical method underlay philosophy, literary criticism and

science. The methods adopted by Newton were undertaken by Locke in analysing the human mind. Both Addison and Pope attempted to distinguish between true and false wit. Addison used Locke's distinctions to define false wit. Pope's *Essay on Criticism* does a similar task.

Enlightenment thinkers saw the world as constituted by individuals who conducted their lives by their own resources and who needed the light of knowledge in these tasks. In this world, the state with its wisdom would supply them with the proper conditions and proper guidance. It is thus no wonder that education is a crucial undertaking for the Enlightenment. In that sense, the 'Enlightenment' was essentially an educational project which would involve the inculcation of not only 'civilizing' manners and practices but also of values and knowledge. Education was to be the responsibility primarily of those who were already being called "ideologists" by some sections of society, where 'ideology' was the term meant to imply 'the science of society'.

There was an emphasis on 'rules', literary examples of which we can see in the preoccupation with neo-classical 'Rules', 'decorum' and 'reasonableness'. The word "culture" itself which was in widespread use in the century suggested ideas of gardening and of education (in the sense of 'civilizing', or even bringing under control or grooming). Philosophers and administrators of the Enlightenment conceived of society as 'garden culture' which required the keeping out of weeds, proper planning, designing, and constant attention.

'Progress' was a preoccupation with the Enlightenment. The idea that the growth and increase of 'civilization' was the direction in which history moved, had become influential. Thus existing and obsolete social and political institutions were to be swept away by enlightened statecraft so that knowledge and culture could grow.

The Enlightenment was devoted to the "simplification and the standardization of thought and life". The greatest of the Enlightenment philosophers, Immanuel Kant, saw "the human race . . .[as] . .continually advancing in civilization and culture as its natural purpose".

2.10 Mapping The Enlightenment

The Enlightenment in Europe was unevenly spread. In Italy its effects were not immediately visible. In some places, it consisted in the work of the ruler such as Leopold of Tuscany, or a minister, such as Bernardo Tanucci in Naples. The scientists Luigi Galvani and Alessandro Volta, were

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products of the Italian Enlightenment. Galileo's work being listed on the Index of Forbidden Books, a century after his condemnation, symbolized the tyrannical power of the church which made it a target for the liberals and humanitarians. Yet universities like Bologna, Padua, and Naples provided the conditions for innovative thinkers like Giambattista Vico and Antonio Genovesi. Its proponents introduced to political philosophy utilitarianism's slogan "the greatest happiness of the greatest number." The greatest representative of the Italian Enlightenment was Cesare Beccaria. His work included *Of Crimes and Punishments* (1764) which, in his lifetime, was translated into 22 languages. One of his followers was Jeremy Bentham, who influenced reforms in English law.

The Enlightenment was a European phenomenon and examples of enlightened thought and writing can be found in every country. By some accounts Spain did not move to the Enlightenment as readily as elsewhere. But it was not entirely unaffected. Related developments which must be simultaneously seen alongside the Enlightenment are the growth of the state, the progress of science, and the later industrialization which helped to transform society all of which underlie both the achievements and the failures of the Enlightenment. It did finally challenge thinkers to greater knowledge and fuller truths as much as it did allow more democracy to people and society.

2.10.1. History of Education and the Enlightenment

Giambattista Vico, a critic of Cartesianism, like Locke, believed that human beings are not innately rational. He proposed that understanding results not from sense perception but through imaginative reconstruction. Vico was professor of rhetoric at the University of Naples from 1699 to 1741. In his best-known work New Science he presented the idea that human beings in their origins are not rational (like philosophers) but imaginative, like poets. The relation between imagination and reason in New Science can be related to ideas in educational theory. This can be understood by considering that civilized human beings are rational, yet they came to be that way without knowing what they were doing.Tthe first humans created institutions virtually without reason, as poets do who follow their imagination rather than their reason. Only after they have become rational, can human beings understand what they are and what they have made.

Vico's idea that early humans were nonrational and childlike presaged Rousseau's conception of human development which was based on primitivism (that humans in the primitive condition are closer to nature and thus, perhaps better than civilized people who are corrupted through aritificiality). The importance that Vico accorded to imagination foreshadowed the place this feeling was to have in 19th-century Romantic thought.

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Check Your Progress:

1. What was the new role given to knowledge by the Enlightenment thinkers ?

(Hints: Related with the idea of 'to civilize' and 'progress'.)

2. What were the special meanings of words like "Reason", "Nature", "Progress", and "Civilization" in the Enlightenment?

(Hints: Try to relate them all to the single term, 'Enlightenment'.)

3. Write a note on the meanings of the word, "Enlightenment".

(Hints: Refer to what Kant said and Frederick the Great's motto. Also, the idea of bringing light through knowledge and philosophy.)

2.11 Summing Up

By now you can see that the 'Enlightenment' began even before the eighteenth century. The list of thinkers associated with it is long: starting with Bacon, it goes through Descartes, Galileo, the British Empiricists, the Continental Rationalists, Hobbes, Linnaeus, Buffon, Voltaire, Rousseau, Diderot, Vico, Beccaria, Hugo Grotius, Montesquieu, Baron d'Holbach and not to leave out the towering figures of Isaac Newton and Immanuel Kant. With its new knowledge, the Enlightenment began a new 'modern' society which brought a new spirit to ideas of human nature and society, a new set of moral values, a 'scientific' method and temper which created a different perspective on the world of nature. It was necessary that with the force of new ideas language itself had to change and words like 'reason' and 'culture' had to mean differently. We have charted only some of the new conceptions leaving out, for reasons of space, the whole background of colonial expansion, the political changes, and the economic conditions. Reading more on the subject, you will discover more interesting directions, some of them leading to a better and more balanced perspective on the period. From the above we can see that in order to fully grasp what

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was going on during this age of great changes, we must go on to other structural changes making headway at that time. So, let us see some of the political ideas in our next section on modern democracy.

2.12 Glossary

Autocrat : absolute ruler

Cartesianism: the philosophy of Renè Descartes

Continental Rationalism: rationalist philosophy as opposed to the empiricism of the British thinkers

Deism: belief in the existence of a god

Epistemology: theory of the methods or grounds of knowledge

2.13. References & Suggested Readings

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Unit 3 : The Beginnings of Modern Democracy

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Unit Structure:

3.1 Objectives:

This unit aims to chart out the 'beginnings' of democracy as we know it since we live in the modern age. As we look at these 'beginnings', the unit will also introduce to you the concept of 'modern democracy'. Just to look at the 'beginnings' of our concept of democracy would have meant restricting ourselves to a particular period of time. In one sense, that would be limited because if we argue that modern democracy begins at one point of time we would also be implying that it 'ends' at another point of time. It would be better, on the whole, to conceive of democracy as an ideal that many societies over time have struggled to achieve through various means of questioning contemporary centres of power. With this aim in view, the unit is structured chronologically , i.e., using the sequence of historical dates to show how the concept developed over time and through the ages.

By the end of the unit, you should be able to

- *name* the events which specifically related to the changes in social formations;
- *understand* these events as contributing to the changes ;
- *connect* into an intricate process all those social movements which finally lead to the re-distribution of social and political power; and also
- *Conceptualize* 'democracy' as a description of evolving social structures.

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3.2 Introduction

In our familiar world, the word 'democracy' brings several things to our minds: assemblies, parliaments, elections, political groups, constitutions, debates and discussions, citizens and rights, courts of justice, modern governments, all among a host of other things. The list of markers of democracy itself shows how familiar we are with this kind of social organization. After all, in a very wide sense, democracy is only a manifestation of how society is organized. On this organization depends the distribution of power. Simultaneously, we also have to keep clearly in mind that all these institutions of democracy are 'modern'. Examining the label 'modern', we find that as far as India is concerned, the 'modern' stands in contrast to what is 'traditionally Indian'. Modern democracy, for us, is closely linked to what, as a nation, we borrowed from our history of colonialism.

History, of course, does not stop and our study of moden democracy cannot stop at this point. But in this space we cannot include everything. So the nineteenth century will be covered through the next three units under the topics of colonialism, Darwinism, and the working classes. Again, do remember that there is so much more than what is looked at here that you only need to carry on finding out using as pointers the information given to you here.

We can merely glance at the beginnings of democracy in certain of the city-states of ancient Greece in which the citizenry, as restricted to the adult male population, formed the legislature; such a system was possible because a city-state's population rarely exceeded 10,000 people, and women and slaves had no political rights and also where there was no separation of powers. Modern democratic practices do not derive from Greek democracy as it was a brief historical episode. The rise of modern constitutional democracy really begins about two millenia after the decline of the Greek city-state.

Here we take a look at democracy as a social process which proceeds through history in various ways. As students of social history we are concerned with how historical events and movements contribute to democratic ideas and formations. As with the earlier section on the ideas which played a historical role in the development of philosophy in the late seventeenth to the eighteenth century, here also we will consider the causes and effects of historical events which can be given the name of 'beginnings of democracy'. Our basic assumption will be that no particular event or institution by itself can be given the name of 'democracy'. Our main

concern will be to see how changes in institutions are brought about and finally lead to different organisations of power.

To begin with, 'democracy' means, literally, rule by the people (from the Greek *demos*, "people," and kratos, "rule"). We can turn to the three basic senses in contemporary usage: (1) a form of government in which the right to make political decisions is exercised directly by the whole body of citizens, often seen as majority rule; (2) a form of government in which the citizens exercise the same right through representatives chosen by and responsible to them, or representative democracy; and (3) a form of government, usually a representative democracy, in which the powers of the majority are exercised within a framework of constitutional restraints designed to guarantee all citizens the enjoyment of certain individual or collective rights, such as freedom of speech and religion.

Democracy is a political concept or even a process which has evolved over time. One way of narrowing down our focus is to view the social changes which brought about the downfall of the earlier feudal order, and to connect them to our 'literary' traditions and history. In order to bring our historical and sociological survey closer to our needs, we should start our account with the clear understanding that "modern democracy" for us is modelled on what happened in England and Europe and then how those ideas came to us through colonial education. So, the evolution of modern democracy will be seen here in the evolution of parliament, the separation of powers, development of the rule of law and the principle of representation.

SAQ

What kind of distinction can we make between 'democracy' as an institution and 'democracy' as a concept ? (50 words)

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What was the nature of political processes in the ancient times? (30 words)

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How does democracy evolve as historical process ? Is there any other feature of 'democracy' that should be kept in mind? (70 words)

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3.3 Medieval Stirrings

Modern democratic government has been shaped to a large extent by the ideas and institutions of medieval Europe. Most notably the concept of divine, natural, and customary law has acted as a restraint on the exercise of power. Significantly, we count among medieval concepts the growing practice by European rulers of seeking approval of their policies, as in the right to levy taxes.This practice consisted of consulting the different "estates," or group interests, in the realm. Modern parliaments originate in these gatherings of representatives of these interests. The Magna Carta arises from just such an idea of decisions based on consensus.

In English history, parliament is a very old institution. Let us go back very briefly to June 15, 1215 when the English King John, a much detested ruler who ruled from 1199 to 1216, was presented with the Articles of the Barons, which later became the basis of the famous Magna Carta. The Magna Carta has become hallowed or sanctified in the history of modern democracy as a forerunner of the documents of democracy. This is because it brought a check to the arbitrary use of power by kings (as with King John himself). Also, it was an attempt to provide security for all freemen. In this respect it aimed at a wide, universal right.

Going back in English history we find an earlier king before King John whose name figures prominently, King Henry II, who ruled England from 1154 to 1189. This king was able to set up what is considered to have been the best administration in Europe. We remember, as students of literature, Henry II as the king whose quarrel with the Archbishop of Canterbury, Thomas à Becket, ended in the archbishop's murder. But Henry remains a figure who brought great reforms to the administration of justice in England. However, we must note that at this time Parliament did not yet exist. But if we see the administration of justice as an important part of organised societies then we can see how significant Henry's reforms were in the march towards a democratic society.

From 1272 to 1307, England was ruled over by Edward I, who is considered to be the ideal medieval king. Edward sought to obtain consent for his taxation and to foster the relation between king and subjects. With this aim in view, Edward would call representatives from the shires and the towns to Parliament. He encouraged the concept of the larger community of the realm and approved of his subjects petitioning the king and his council in Parliament. Historians have argued over Edward's Parliament, whether it functioned like an institution of representation. But it certainly

became the foundation of what later developed into a complex institution. That is, it later became the basis of modern democracy.

English government had got used to "parliaments" since 1254. But with Edward's practice, Parliament became a distinctive feature of English politics by 1307. The Parliament of 1295 is called the "Model Parliament" because it included representatives of shires, boroughs, and some minor clergy. For Edward I, parliaments and councils were the institutions by which many statutes could be enacted, especially the great statutes promulgated between 1275 and 1290.

Common consensus or wide agreement on issues of policy is clearly an important part of efficient government. Note that Edward I tried to get the consent of the community for his decisions through his 'parliaments' or councils. Law is also an important part of good government and thus it is quite natural that in Edward's reign we find both the move towards Parliament and towards clearer and more systematic law-making. Edward's summoning of representatives to Parliament is also accompanied by his cultivating the idea of the community of the realm. This means that there was now the concept of a nation.

SAQ

How was medieval society organized ? (50 words)

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As we study the beginnings of modern democracy we must keep in mind the close connection between the concept of modern democracy and the procedures and institutions of governance, administration, justice, economic and financial concerns of the state. Through history the notion of democracy is related to social and cultural changes. Society changes as individuals and communities evolve into newer states of existence.

The concept of 'representation' must be kept closely connected with the concepts of 'nation', administration and parliamentary constituencies. Imagine two concentric circles connected by lines like the spokes of a wheel. The smaller, inner circle is the parliament with the lines standing for the representatives who come from different parts of the country. If the larger, outer circle (=the nation/community of the realm) does not have the lines (the spokes) going in to the small circle (parliament), it has no connection with it. So there can be no parliament without the idea of nation

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or 'community of the realm'. And if the nation and the parliament are there, there must be representatives.

Historians tell us that feudal institutions in England broke down earlier than anywhere else in Europe. It is thus England in the 13th century where we see the two directions towards democracy emerging. . One was the beginning of Parliament, and the other was the new idea of the "community of the land". We have seen the achievements of Henry II in bringing able administration to the realm. Henry's chief concern was with the judicial system. The question of judicial systems is connected with ideas of moral conduct on the one hand and with ideas of whose law and which law. In thirteenth-century England we see the development of law in the reign of Edward I. English customary law, that is, law based on established customs and practices, is known as English 'common law'. Until the 19th century this common law developed as the body of principles evolving from the practice of judges.

The Church in medieval England had its own system of laws and courts separate from the King's and the state's. Naturally enough, in the time of Henry II there was to be a conflict since he laid claim to the power of adjudicating the offences of clerics (church officials) and other matters which the Church kept to itself. Henry's actions settled the primacy of common law in England—something that was to have great consequences for the English-speaking world later!

State, monarch, Church, law, government are all questions of power and politics. While they may not be directly related to literature, we can see their effects on language and literary texts when we look at Chaucer's great 'Prologue' to The Canterbury Tales, Shakespeare's history plays, or the emergence of English as the official language, Fielding's Joseph Andrews, Webster's Duchess of Malfi, Donne's "The Sunne Rising", the changes in art and architecture, literary production, and in so many other textual ways.

Literary texts share in the structures of power and politics as they necessarily share, at times very subtly, in everything that society contains. For instance, even a 'love poem' like Donne's "Sunne Rising" brings to us very vividly the whole business of daily life with its courts, people, justice, authority, etc. The poet, in the poem, seems to consider the sun as a faded figure who is involved in this daily business of status and manners. Fielding's Joseph Andrews is the victim of Lady Booby's abuse of her power and position.

Check Your Progress

1. How did the English 'parliament' come into existence ? How was the concept of the 'realm' important to the idea of consensus underlying 'parliament' ?

(Hint: 'Realm' means the community (and territory) over which authority is exercised. Authority needs some consensus which again, cannot exist without the realm.)

2. What constituted the conflict between the Church and the State in England ?
3. Explain the relation of 'democracy' with 'parliament' and 'community of the realm'.

(Hint: Parliament allows the scope for common consensus while 'community of the realm' means the system of 'representation'.)

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3.4 The Church, Society And Learning

At this point, we have to change our perspective somewhat and turn to what was happening in the Church and the world of learning. The question of knowledge and learning is important in all questions of power and authority. If we recall what was happening to the Church and within it in the late medieval ages we can understand how the Reformation came about. In relation to England and to Europe, where the Roman Catholic Church had presided for long, by the 14th and more in the 15th century there had been a decline in Scholastic theology. There was wide apprehension that the Church needed to return to its authentic religious roots as available in the New Testament. There was also a new attachment to the Bible which began to be widely circulated both in Latin and in vernacular translations. With the coming of the movable typeset and the development of printing the Bible became a most popular text. Part of the general disquiet regarding the Church was hostility towards the clergy, or what is named 'anticlericalism'. From what Chaucer has left us in his immortal *Canterbury Tales*, we know the primary reason for anticlericalism: the corruption of the clergy! But also, with the new tide of the Renaissance came the intellectual re-thinking of the Roman Catholic teachings themselves. There was a lot of room for doubt.

Renaissance humanism, which had a lot to do with intellectual skepticism and a new cultural blossoming itself, would have its effects on the world of knowledge which had been under the control of the Church throughout the Middle Ages. The humanists were both devotees of Christ

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and of classical culture. In this sense Desiderius Erasmus, a faithful member of the Roman Catholic Church, was also a fierce critic of the Scholastics and the corrupt Roman Catholicism.

SAQ

How was the Church able to control power in medieval society? (70 words)

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How did nationalism affect the church? (100 words)

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The Reformation of the Roman Catholic Church could not have come about if people in Europe had not started thinking of themselves as communities of realms! Earlier, the Church, under the Pope in Rome, had been 'the world'. But now regional differences and nationalist feelings of regional particularities had begun to shape people's thoughts. By the 15th century national consciousness was in conflict with a transnational Church. The seeds of doubt as well as of schism became properties of the church. In England, in the 16th century, church would be overtaken by nation and would break with Roman Catholicism with the influence of the Protestants.

It is in connection with the challenges to the Roman Catholic church in the 16th century that we have to consider Martin Luther, the reforming monk who achieved a moral triumph in April 1521 at the Diet of Worms where he refused to recant when he was questioned about his writings. His treatise, *The Babylonian Captivity of the Church*, of 1520, had denounced the entire system of medieval Christendom as an unwarranted human invention foisted on the church. Luther is an important figure for two reasons: he translated the New Testament into German from the original Greek. This was published in September 1522, and, like the Old Testament, translated from the Hebrew, published in 1534, was a work which had a profound influence on the language, life and religion of the German people. In 1526 Luther brought out his "German Mass", that is, the vernacular liturgy. The second reason why Martin Luther must be referred to is his significance for the social and political unrest in Germany in those years. As a gifted preacher and reformer and with his literary talents, Luther was a campaigner for the German people as well as for the rulers. The Peasants' War in the region of the Black Forest in 1524 drew

upon the ideas of Luther for inspiration. The peasants' demands included the question of taxes and rights in game and forest laws. In a document of 1525, Martin Luther provided support for their cause.

Stop to Consider:

"Diet of Worms": the assembly of the Holy Roman Empire held at Worms, Germany, in 1521. This assembly was made famous as Martin Luther appeared before it to defend his beliefs

"liturgy": rites of the church including the eucharistic meal

3.5 Anti-Clericalism

From Luther's campaigns, we get the particular brand of anticlericalism called Lutheranism. In England, anticlericalism was not new, as we see in Chaucer's work. Anticlerical literature was not directed only at the ecclesiastical orders of society but also included protest against political institutions. Before the 14th century, the political lyric existed in England, written mainly in Latin or French. The Middle English lyric had been more adapted for singing, flourishing more in the 13th century, and secular. This secularism occurred despite the fact that throughout the Middle Ages the clergy had been guardians of the written word. Popular interest in social and political matters was expressed in an increasing number of political songs and poems. An example of the political songs and poems circulating in the 14th century is the couplet used by the radical priest John Ball to preach the doctrine of equality during the Peasants' Revolt of 1381:" When Adam delved, and Eve span,/ Who was then the gentleman?"

The commonest theme among Middle English lyrics was the religious one (often devotional, and moral, sometimes mystical) but secular literature was expanding its scope. We can take the instance of Laurence Minot, known as a "patriotic versifier" who celebrated English victories against the French and the Scots, thus displaying a growing national feeling in his poems. This leads us to understand the progressive breakdown of the older institutions such as the religious domination over people's lives and the growing feeling of oneness with the realm such as the nation.

Looking back to 14th century England the anticlericalism of John Wycliff, a first-rate realist philosopher and teacher of Oxford with well-known students, who attacked clerical abuses is important . Most of Wycliff's followers were craftsmen and following him, they opposed Roman domination of the English church among other things. These

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followers were called 'Lollards' or 'Wycliffites' and they developed Wycliff's controversial ideas into a political agenda which denounced the established church as irredeemably deficient and the prelates as agents of Satan and Antichrist. Some of these ideas had even inspired the Revolt of 1381 but more significantly Lollard political views were influential in many places and even in parliament until about 1414-15. Wycliff is important for making spiritual grace available to the laity (the common people) through his translation of the Bible into the vernacular at a time when books in English were not allowed to be published by the clerical authorities, less so the Scriptures. The Lanterne of *Light* (prob. dated between 1409 and 1415) is one known example of a Lollard treatise which had been done anonymously.

Check Your Progress

1. How is Lutheranism important in the spread of democratic ideas ? (Hint : One part of democracy is the scope to question authority and to express. Lutheranism also meant that the common people now got closer to the Scriptures.)
2. How did nationalism conflict with the 'transnational Church' ? (Hint: The Church could no longer ignore the interests of any nation.)
3. Explore the reasons for the translation of the Bible into the vernacular languages. (Hint: One reason may have been that with the decline of the authority of the Church, regional and national aspirations required the Bible to be available in vernacular languages. Also, do not forget the Print Revolution which coincided with the rise in literacy.)
4. Relate the Reformation in the sixteenth century to the social unrest of the times. (Hint: The revolting peasants, after all, found Luther's ideas to be supportive of their cause.)
5. Write about Wycliff and the Lollards. (their activities reveal a lot about the status of the Church)

3.6 Time of the 'Reformation'

The English Reformation, a movement specifically linked to religious power and domination, was a general dislike of priests and the pretensions of the Church which prevailed all over Western Europe. The Church was un-Christian in the wealth it possessed and desired. Acting like a State

within a realm, it owned about one-third of English soil and some abbots and bishops controlled larger revenues than any nobleman.

William Tyndale needs mention here as the English biblical translator, humanist, and Protestant leader who believed that every Christian should be able to read the Bible in his own language. Being prevented by English Church authorities from translating the Bible he went to Germany in 1524. His New Testament translation was completed in July 1525 and its English version came out in 1526.

The Wycliffite version of the Bible emerged as the point of oppostion to ecclesiastical authority. English had recovered from the suppression enforced by the Norman invasion. This made it possible for the heretical teachings of John Wycliffe to inspire probably the first version of the English Bible. Ecclesiastical opposition to the Wycliffite translations did not stop its circulation and evidence suggests that in the early fifteenth century it was widely popular as the only existing English version.

The English Reformation was made possible as much through the actions of King Henry VIII as by humanist scholarship although Henry abjured both Tyndale and Luther in his book, *Assertio Septem Sacramentorum* (1521) for which he had been invested with the title, "Defender of the Faith". King Henry broke with the Pope over the issue of his divorce from Catherine of Aragon but when he dissolved the monasteries there were fiscal compulsions behind him. Moreover, the gentry needed lands. By 1540, the acquisitions following upon such dissolution all vested in the Crown. The Crown's ordinary revenue was doubled, land was redistributed among courtiers, ministers and the gentry old and new. As structures of power change and undergo transformation, we see a greater devolution of power from former feudal forms to newer ones. In this case alone we see the monarch himself effecting the redistribution of wealth.

The power of the Church in England got severely broken with Henry VIII's devastating decision. This was a case of nationalist interest versus the 'transnational' Church: it was partly Henry's desire for a male successor which led him through the series of six matches and the break with Rome.

The Protestants were largely middle-class in character and they found many of the older ideas of the church to be obstacles to financial development . Society had already seen the rise of this class while the Church had already lost its authority. This could only mean that Roman Catholicism would have to break with the tide.

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SAQ

What is the connection between the growth of democracy and the decline of the church? (70 words)

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What were the factors which spurred on the Reformation? (50 words)

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How did anticlericalism help to foster democratic feeling? (50 words)

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The disciples of Luther (c. 1483-1546) were known as 'Protestants'. So were the Swiss disciples of Huldrych Zwingli (1484-1531), and later of John Calvin (1509-64). The Swiss Reformers and their followers in Holland, England, and Scotland, especially after the 17th century, preferred the name 'Reformed'. In the sixteenth century, the name was used to describe the two schools of thought which arose in the Reformation, the one of Luther and the other of the Swiss reformers, the Reformed.

3.7 Rising Protestantism

Protestant demands came at a time when Luther himself, a Roman Catholic, was demanding deeper changes in the rituals of the church. Luther used his skills in the German language to attack the moral, financial and administrative malpractices in Roman Catholicism although he insisted throughout that his critique was directed at the doctrine of the church and the distortions of the gospel. Luther refused to pay the ritualistic obedience due to the church and pope thereby causing himself to be excommunicated by Pope Leo X in 1521.

In England, by the time of Elizabeth I, Protestantism had completely overtaken the Anglican Church. Nevertheless religious life in the 17th and 18th centuries continued to be culturally important. Pascal and Cervantes are remembered as literary figures who expressed Roman Catholic thought and piety in their works. Of the church's conflicts with modern culture in

this period the most fateful occurred in the natural sciences. Galileo's condemnation in 1616 and again in 1633 on the grounds of suspected heresy was more important as a sign of the alienation between science and theology.

We have, therefore, to see democracy in much larger terms as the sum of social and economic processes. The changes within the church are reflections of larger changes in society. Particular events, such as King Henry VIII's dissolution of the monasteries or Luther's defiance of the church authorities ultimately express what social changes were leading to. The cutting of the religious cord binding England to papal dictates as also the beheading of the Stuart king, Charles I, in 1649 all belong to the march of democracy. Renaissance humanism brought in the scholarly emphasis on the material existence of the human race by which the profession of divinity (as by the clergy) would be contested.

The age of Marlowe and Shakespeare was written in the language of feudal land tenure and the rise of mercantilism. This was a world different from Chaucer's. In order to trace the shades of democracy in modern form with the accustomed hallmarks we can look more closely at England roughly around the 1640s and thenceforth.

The Puritan revolution in England led by Oliver Cromwell and the Roundheads was the result of religious and political thought. It was not the result of desire to recast society or to redistribute wealth. There were more lords and gentlemen on the side of the King, more yeomen and townsfolk on the side of Parliament. London was, above all, on the side of Parliament. The stage of economic and social development which had been reached in the England of 1640 was perhaps a necessary condition for the religious and political movements flaring up into flames.

Check Your Progress

1. How did the Reformation affect English society ?

(Hint: One was the rise of Protestantism and the other is to be seen in the actions of Henry VIII.)

2. How did the presence of the middle-class give support to Protestantism?

(Hint: Protestant values were similar to bourgeois values.)

The episodes in English history involving Parliamentary leaders like John Pym and John Hampden who vigorously resisted the King in the period leading upto the Civil War demonstrate the increasing notion of the

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accountability of monarchical powers. The bloody conflicts between King and Parliament in these years, the 1640s, demonstrate the conflict of the older institution with the new. Pym and Hampden were successful in their attempt to wrest power from the king on behalf of parliament because not only was there an old parliamentary tradition but there also existed a powerful bourgeoisie, a gentry, a yeomanry, which already had the experience of government. These were the classes of people which had already known the sharing of power with the monarchy. The yeomen and artisans, the two classes, had already been economically and personally independent and bred for nearly a century now on individual and personal study of the Bible. This made it possible for the different sects of these classes to come to national prominence at this time.

Only London could be ranked with the great continental cities. It was the centre of government, of overseas trade and finance, of fashion, taste, and culture. This city not only ruled the English mercantile world, but it also dominated the rural economy of the southeast by its insatiable demand for food and clothing. The rural economy was predominately agricultural. The northeast and southwest were the location of the only significant manufacturing activity in England, the woolen cloth industry. Wool was spun into large cloths for export to Holland, where the highly technical finishing processes were performed before it was sold commercially.

A brief look at English society is necessary. English society displayed economic divisions between the rich and the poor. There was clear hierarchy defined by rank and status according to privileges and responsibilities. Both family and state was characterized by such organization. Yet, social mobility was known and accepted. The attainment of wealth could lead to status. The apex of the social structure consisted of a small titular aristocracy of between 75 and 100 peers. The titles among these were hereditary and this was the wealthiest section of the state. Many were local magnates with vast country estates and occupied positions of honour in local government. It was the military class of the nation and these peers held the offices of lord lieutenants in the counties. The gentry were below them, composing about 5 per cent of the population but rising in importance and prestige. They did not have titles although many were knights and many had purchased the rank of baronet after this was created in 1611.They served as deputy lieutenants, militia captains, as justices of the peace who had the responsibility of enforcing the king's law and keeping the king's peace. Beneath the gentry were those who laboured for their

survival, and of these were many prosperous tenants who were styled yeomen. They were economically independent while some were the younger sons of gentlemen, as others were aspirants to the ranks of the gentry, having amassed sufficient wealth. Like the gentry, the yeomanry was involved in local government; performing most of the day-to-day, face-to-face tasks.Yeomen was village elders, constables, and tax collectors. Most owned sufficient freehold land to be politically enfranchised and to participate in parliamentary selections.

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SAQ

What is the difference between Chaucer's England and Milton's? (100 words)

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What was the result of the conflict between Charles I and Parliament? (30 words)

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What was the status of the gentry in the 17th century ? (25 words)

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This was the Puritan society in which the Cromwellian revolution had to play its role in advancing the cause of democracy. This, too, was the society in which John Bunyan's *Pilgrim's Progress* (1678), the expression of Puritanism, came to be written. Bunyan's lonely Puritan represented Puritanism in society in the manner of Oliver Cromwell and his followers. The Puritans were a force of great potency being hard-working, devoutly religious, disciplined people with the strength of numbers. Izaak Walton's *The Compleat Angler* (1653) tells us of England in this time.
In the late 1640s and 1650s there was intensely partisan debate over the shape and authority of English government. Charles's defeat at the hands of the Parliamentarians had not destroyed his belief that his sovereignty had been sanctified as a divine right. Between 1646 and 1649, the Parliament undertook to reform and restructure the Royalist state of the Stuart king.

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It succeeded in dismantling this erstwhile organisation of governance by making changes in the Anglican Church as well as in the abolition of Charles' reign and the House of Lords in Parliament. The parliament retained its powers till Oliver Cromwell was proclaimed Lord Protector in 1653.

The extent of social change in England in the Cromwellian Commonwealth is a matter of debate. What is more significant from our point of view is the extent of the contemporary debate of what the government and the state should be like. Historians in recent times have given more attention to these debates probably because they see continuity in the thoughts of the dissenting Puritans who participated in these debates, and the later radical English thought which has favoured socialist ideology. Democratic ideas of the equality of men in spite of differences in rank and wealth affected the political happenings of the period.

As we have seen, English society was not profoundly altered by the Puritan or Roundhead Revolution. But it was indeed true that the old aristocracy had lost its primacy. Some of the changes wrought by the victories of the Parliamentary armies during the Civil War were permanent. One of these was the increased power of London and the involvement of the merchant community in high politics. Another important change was the predominance of the English Common law over other laws.

The civil strife had drawn the entire realm to battle, dividing the population along the directions of their ideas and resulting loyalties. But people now had a greater sense of independence and individualism and political differences often pitted neighbours against each other. [The social effects of the Civil Wars in England are vividly painted in G.M.Trevelyan's *Social History of England*, pages 253-260.] In economic terms, Royalist loyalties were found to be strongest where the changes had been less felt: mostly the rural regions and far-off market towns. Puritan sympathies were more prevalent where there had been many changes as in London where the great trading companies of the Elizabethan period had flourished.

It may be useful at this point to remind ourselves that our main aim is to see the connections between 'literature and social history'. For literary history, the period shows discussions being carried on through pamphlets and preoccupied with the exercise and the distribution of powers in government. An important book of this time was *Eikon Basilike*, ascribed to John Gauden (1605-62) supposedly the meditations and prayers of the 'martyred' King. The impact of this book was widely felt; its sales were impressive and it affected readers well into the eighteenth century. There

were other writings as by William Walwyn and Gerard Winstanley which stressed the importance of love and brotherhood as intruments of changes in social relationships. We have to refer to James Harrington's *The Common-Wealth of Oceana* (1656) which explored the basis of an ideal republic in the light of English history of the preceding couple of centuries. Harrington's work was dedicated to Cromwell and its impact on contemporary times and subsequent periods bears out its significance.

The Bible and country-life had been important, almost of overriding importance, for the men who fought in the battles between Cavalier and Roundhead. This was especially true of John Bunyan. The learning of the time had been both Classical and Christian and in the period of Milton, Marvell and Herrick, poetry and learning had subsisted in close alliance. Elaborate and scholarly poems circulated in manuscript form before being committed to print. Political and religious controversy had been conducted in books and pamphlets and given the large readership among the upper and middle classes in both town and country they found an eager audience. Writing was done mostly on serious subjects and the taste for 'fiction' was satisfied by the folk-ballads.

Discussion and debate among men of learning was coloured by issues of partisan politics, enterprise and development, religious polemics, the importance of London in social life, amongst other things. A host of writers can be recalled to mind if we want to savour the times: Dryden, John Locke, Edmund Burke, Tom Paine, Godwin (both Francis and William), Milton, Marvell, Hume, Donne, Swift, Pope, Johnson, Samuel Butler, all cover the period from 1660 to 1800.

3.8 The Hallmarks of Modern Democracy

Other measures of democracy include, in the period referrred to above, (i) the growth of a civic body, or the 'public', and (ii) the growth in the conception of a 'common man'. In this connection, the philosopher Jürgen Habermas, has named a "public sphere" to mean a body of people who are anonymous and always changing. We see this "public sphere" coming up in Britain in the eighteenth century, in the period when the Tatler and the *Spectator* (by Addison and Steele) came up. This was also the time of *Robinson Crusoe*, of Clubs, and Coffee Houses.

We can mention the emergence, in the eighteenth-century, of an educated and politically conscious public. Printed works, including newspapers and periodicals, were now in high circulation. Politics and newspapers had begun to enter daily lives. The end of the eighteenth

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century saw revolts and revolutions in North America as well as in Europe. The War of American Independence inspired many Europeans. Revolution broke out in France coinciding with the revolt against Joseph II in Belgium.

SAQ

What are the different social tendencies in 17th and 18th century England by which modern democracy would shape society? (70 words)

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What are the literary genres which indicate the growth of 'modern' democracy ? (50 words)

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What was the effect of the French Revolution on English society and thought ? (70 words)

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What happens to monarchy after the French Revolution? (50 words)

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The eighteenth century is to be remembered as the time when monarch collided with the nation or the people. The state (as government and administration) would stand aside from both. This century is considered to be a formative period if seen in line with the development of modern ideas of politics and the state. In 1700, European hereditary rulers were still entrenched in power. By 1789, the French Revolution would drastically alter the situation in France. As a milestone in the move towards modern democratic government, the French Revolution stands out in upholding the ideals of national sovereignty and the liberty and the equality of the citizen. The earlier theory of the 'divine right of kings' and the patrimonial attitude of kings was in course of time replaced by the theory that government was to be in the interests of public welfare. Since the Renaissance, the idea had

increasingly taken root that the state was an abstract entity. Later, this would mean that there would be no question of hereditary right in continuing government. Rather, the state was independent of whoever happened to be ruling at a given moment. Governments would have to act in the name of the state and the state would be the source of legitimate authority. By the nineteenth century the people would lay stronger claims to sovereignty.

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3.9 Summing Up

As we pointed out at the beginning of this unit, 'democracy' should be seen as an idea which takes different shapes at various moments in history. As an ideal it brought in changes in the medieval ages, the Renaissance, the Reformation, the Civil War in England, and then the eighteenth century. It brings in changes even now. The discussion of 'democracy' leads through the Magna Carta, Wycliff, anticlericalism, translations and the English Bible, Martin Luther, Tyndale, Henry VIII, Protestantism, law, parliament, language, the administration of justice, governance, 'absolutism', the middle class, and even the rise of London. These are only a few of the topics we have looked at above. They are like the milestones you have to keep counting as your wider reading tells you much more than what can be covered here. The important point is that 'democracy' is not to be seen as a static model revolving around voting and franchise only. It is partly the scope to question authority, partly the oppostion to injustice, partly the redistribution of wealth, as partly the redistribution of power. At each step it should be remembered that 'democracy' is relative to its historical situation. So the Magna Carta is 'democratic' in the context of its times but not in an absolute sense. Similarly, the events we have looked at in this unit add up to 'democracy' as an evolving, historical ideal.

3.10 Glossary

Absolutism : in politics, the principle of absolute government
Boroughs : town privileged by royal charter and sending representatives to parliament
Clergy: persons ordained for religious duties
Heresy : opinion opposed to orthodox Christian doctrine
Monastic: of or like monks, friars, nuns, etc.; of monasteries
Prelates: dignitaries of the church
Realm: kingdom; domain
Shire: county

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3.11 References & Suggested Readings

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Unit 4 : Colonialism to Imperialism

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Unit Structure :

4.1. Objectives

This unit will familiarize you with the topics of 'colonialism' and 'imperialism'. These are topics of social history with profound implications for literary study especially in a country like India. In keeping with the other units in this block, we have attempted here to help you understand colonialism and imperialism as historical processes which can be seen as arising from events in European history. So we expect that you will—

- *relate* the events and general social processes
- *question* the familiar landmarks of European history
- *use* the information given here in order to find out more on your own
- *learn* of the connections between the economic, the political and other sociological facets of history which collectively constitute the processes of history.

4.2. Introduction

In this part of our programme of study, we move our attention to the subject of colonialism. Being in India we cannot claim ignorance or even

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indifference to this historical process which has shaped our own recent history. We are all familiar with the events which brought the British colonisers to our country and what happened subsequently. When we look at these events as not merely a series of happenings but as part of a pattern of human history then our study becomes much more fruitful. For we seem in them to find questions of larger human motivation and attitude.

The history of colonialism, which itself was the result of the expansionist aims of European states, shows how events and social processes at the level of the economic, the political, even the religious and the intellectual, mingle together. The originating centre of colonial conquests was Europe and the politics which governed the relations among the nations there. Here, we start with the motives for expansion which gives us the history of exploration and discovery. Such exploration was made possible by other factors such as the particular stage of development reached by the European societies. Nationalistic feeling was important in this case as was the rise of mercantilism. Subsequently, discovery of the 'New World' became the foundation of trade. The extraction of mineral wealth was an important feature of colonial trade as was slavery. Transatlantic trade alone did not create 'colonialism'. Trading ports became settlements and later these turned into the peripheral colonies of the metropolitan centers. Over time, the colonies became the foundations of the imperialist world order.

4.3. Nationalism & the 'Period of Discovery'

We have to first understand why overseas exploration by the European nations began to be undertaken. In order to grasp this let us go back briefly to the Renaissance in Europe, from 1493 to 1520. Until 1492, when Columbus crossed the Atlantic to land in America, there was virtually no contact between the native peoples of the Americas and Europeans. The discoveries of this period, the fifteenth and the early sixteenth centuries, were remarkable for the way in which geographical knowledge was used to expand national frontiers. The peculiarity lies in the fact that this was the period when national frontiers had become extremely important with the rise of nationalistic feeling.

The presence of nationalism does not mean that people in the different states had no traffic between them. There was a cultural cosmopolitanism in Europe which allowed the spread of knowledge. But the way in which this fund of knowledge was used was marked by nationalist concerns. This period could be called the "Period of Discovery" because a lot of

exploration was undertaken. These explorers were drawing upon a common fund of cartographical knowledge and geographical speculation.

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Stop to Consider:

Explorers were available on payment in the 'Period of Discovery'. Such a person was in almost the same class as the mercenary soldier, the painter, the sculptor or the goldsmith of that period. But being of this class also means that they were at the disposal of whichever prince or country would pay for them. We can take several examples: the Cabots were Venetians in the service of the English king (John Cabot's transatlantic expedition was royally sponsored) ; Columbus, the Genoese, would have served any king most willingly for payment (he was sponsored by Queen Isabella of Spain), or the French or the Portuguese, instead of the queen of Castile who finally financed him. Giovanni da Verezzano, the Florentine, carried the French to the mainland of America. Magellan, the Portuguese, sailed in the service of Spain. In a slightly later period Henry Hudson, the Londoner, set out from Amsterdam in the service of the Dutch East India Company on his voyage of 1608. Later still the English Hudson's Bay Company owed its origins to the persistence and the experience of two French Canadians. Portuguese explorers were in the forefront in this kind of venture.

There is a famous painting by the German artist, Hans Holbein, done in early 1533, entitled the "The Ambassadors", on which a lot of recent commentary has taken place for various reasons, some of it relating to the European and English politics of the time. Leaving aside these political facts which are complex, the painting shows "an array of instruments and apparatus for mastering the heavens and gaining precise knowledge of time and place, for navigating the globe and mapping and recording geographical findings". What the painting points to is the extent to which knowledge and outward expansion supported each other at the time. The painting was done for the French ambassador who appears in the portrait and these instruments shown next to him actually are interpreted to have been indicative of French territorial ambitions at the time. A significant feature of this painting, for us here, is the appearance of a 'terrestrial globe'. The 'terrestrial globe' had a special place in the 1520s and 1530s in connection with European geopolitics following on the circumnavigation of the earth by Ferdinand Magellan, the Portuguese explorer who voyaged on behalf of Spain.

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SAQ

Why are borders so significant for nationalism? Which countries are being referred to here ? (50 words)

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How does nationalist concern guide the use of knowledge? (50 words)

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What is the meaning of 'cosmopolitanism'? (40 words)

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What was the status of cartography at this time? More generally, what kind of artistic techniques were in vogue in this age? What did maps of this time look like? (60 words)

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4.4. Nationalism & Outward Expansion

We must place this 'Period of Discovery' against the background of the internal struggles of the western monarchies for power and revenue. We can, once again, connect this to the existence of nationalist feeling which made every state or nation desire to be richer or more powerful than the others. Nationalist feeling, combined with feelings of rivalry or competitiveness, was sure to fuel the greed for power and riches! Thus, the fact that in this period kings readily turned to utilising knowledge available anywhere in Europe for exploration was only to be expected. In a way, this was one of the ways in which the kings and princes patronised or encouraged the progress of learning in the arts and sciences.

There should be no difficulty in making this connection! Just recall that the Renaissance had challenged medieval scholasticism which was thus giving way to 'Humanism'. This means that the focus of learning and literacy was changing. With the Reformation and the clamor for reform,

learning was gradually slipping out of control of the clergy. Royal patronage of learning was nothing new. So, if new knowledge about the earth's geography was available, then it was possible that any king or prince could obtain it.

Cartography or map-making was an important subject and with the revival of classical learning, better maps were being made. Try to find out and to recall what the contemporary conception of the earth was and how the ideas of Copernicus and Kepler were gradually leading to a change. So there is a close connection between the contemporary extent of knowledge and what the interests of the European nations were . We can imagine therefore why, perhaps, exploration would have been difficult without Renaissance humanism!

A look at the state of European politics is helpful here. The 15th century was marked by changes in the structure of European polity. The age was accompanied by a new intellectual temper. Observers such as the philosopher and clerical statesman, Nicholas of Cusa, felt that the "Middle Age" had attained its conclusion and a new era had begun.

The Papacy, the symbol of the spiritual unity of Christendom, had lost much of its prestige and become infected with new ideals gaining influence in the Italian peninsula. As the 16th century came, the Protestant Reformation reacted against the worldliness and corruption of the Holy See. The Roman Catholic church responded in its turn by a revival of piety known as the Counter-Reformation. As the Protestant movement was gathering strength, the familiar limits of the Old World were being thrown open by the expansion of Europe to America and the East.

We can take a further step and understand that royal patronage of the arts and sciences now extended to encouragement of exploration. But this alone is not enough to see why this is the 'Period of Discovery'. The period we are looking at is also the time when mercantilism was a prevailing idea. That is, the practices of commerce were being accepted and the ideas and methods of commerce were used for the conduct of people's affairs. Moreover, it shows us that mercantilism meant a particular preoccupation: each state or nation aimed at being economically independent. By doing so, it would not have to depend on doubtful friends and could deal with potential enemies.

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SAQ

What can be meant by 'mercantilism'? (30 words)

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How important were the merchant classes at this time? How is exploration related to commerce and the practices of trading? (40 words)

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How far did the need for economic independence propel exploration ? Why did people begin to think of exploring new territories as an answer to the new doubts and difficulties? (100 words)

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What is the result of the combination of nationalistic feeling, mercantilism, the state of knowledge about the world, the competitiveness among monarchs who wanted to be economically independent of their neighbours, and the presence of professional explorers who were willing to take risks in exploring unknown lands and oceans? Our answer must be that new patterns in national and international politics would be the result. Also, new prospects of acquiring wealth were coming up. More even than that, the world now looked so wide that new arrangements could be gradually imagined. The concepts and practices of mercantilism were now guided by the prospects that the discoveries had brought up. New economic possibilites now came into view. The nationalistic aims of the kingdoms of achieving economic self-sufficiency and independence could now be realized since this new wider world seemed to contain so much more wealth and riches than what had been earlier imagined.

Therefore, we can see that nationalism (or nationalistic feeling) which had motivated the explorations and discoveries, and which also decided how to use these discoveries, became a factor of international importance.

The two paragraphs above focus attention on why the European states or kingdoms took an interest in long voyages of exploration and discovery. The important reason given here is intense nationalism, i.e., the feeling that

each nation had of trying to be stronger and richer than the others. When this combined with mercantilism, each nation answered the question of how to become strong and rich by attempting to discover new sources of wealth! Wealth would mean greater military strength and therefore the power to decide international relations.

The explanation of 'mercantilism' is: it is a term which may be applied to those theories, policies, and practices, arising from the conditions of the time, by which the national state, acting in the economic sphere, tried to increase its own power, wealth, and prosperity.

From the above it is evident that the ambitions of a nation to be strong and rich may have had their roots in mercantilism! We can re-state all of the above as: the discoveries had been fuelled by nationalism. Nationalism controlled the results of those discoveries. As a consequence, nationalism was a factor of vital importance in international relations.

There was another question to be answered: could expansion by itself have led to enrichment? In other words, since discovering new lands alone could not lead to more wealth, how far was exploration also urged on by the need to expand geographical knowledge ? How important was the need to expand knowledge? The answers may not be fully given but it is possible that all of these issues were involved in this outward expansion.

Check Your Progress:

1. What do we understand by 'nationalism' ?
(Hint: Connect to the concept of the 'community of the realm'.)
2. What is the difference between 'nationalism' and 'cosmopolitanism'?
(Hint: One explains expansionist ambitions while the other explains the availability of ideas.)
3. How did territorial expansion constitute a pillar of nationalistic feeling?
(Hint: The concept of nationhood cannot exist without territorial control and material resources.)
4. What lay behind the new drive of the European nations towards power and revenue ?
(Hint: Rising capitalism with its attendant competitiveness and military rivalry.)
5. How do we connect the state of knowledge and its patronage to the search for wealth ?
(Hint: Exploration was made possible through new ideas in cartography, its royal support, the advances in learning due to the Renaissance.)

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4.4.1. Life at home and imagination abroad:

The late Middle Ages was a period of significant technological advances. This was, in turn, linked with the high amount of capital invested in labour-saving devices. The development of printing by movable metal type helped many copyists to reduce their labour by substituting the earlier expensive machine, the press. Smaller armies now had greater fighting power with gunpowder and firearms. The development of navigational aids was leading to changes in shipbuilding and bigger ships could now sail with smaller crews over longer distances. By 1500, Europe had achieved a technological edge over all other civilizations and was thus equipped for worldwide expansion.

There had also been widespread social changes. Population figures had decreased which, in turn, brought down the cost of basic foodstuffs, especially wheat. Food being cheaper, people in both countryside and city improved their diets. More manufactured products from the towns were now available as urban economies began to benefit. The 14th century is regarded as the golden age of working people.

A political reason for expansion was connected with the privileges gained by Spain and Portugal, both of which were Roman Catholic nations. Moreover, by 1580 it was the Habsburg dynasty which had control over both Spanish and Portuguese portions of the discoveries through Philip II of Spain. Philip's access to so much power and riches had caused all other European nations to work towards their own freedom from him in religion, policy, and finance. Overseas possessions had given Philip too much dominance in Europe.

SAQ

How did nationalism, the growth of trade and commerce, the advances in knowledge such as cartography, and international rivalries combine to give colonialism ? (100 words)

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Who were the European rulers in this period? What was the cause of Philip II's great importance ? (30 words)

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Another element in these international relations was the fact that most states carried on their statecraft to achieve control of the primary commodities for manufacture, warfare, and consumption. Added to these aims now were the ideas of doing more trade, more shipping, and amassing bullion (gold). So the discovery of new sources of these gains stimulated more ambition and rivalry. But the fear of and resentment against the Habsburgs was not the only reason for the new balances of power and wealth, and for new values coming into existence.

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Stop to Consider:

European expansion takes place in the context of its own politics. After Christopher Columbus' first voyage, the rulers of Portugal and Spain, by a treaty in 1494, partitioned the non-Christian world between them by an imaginary line in the Atlantic. Portugal could claim and occupy everything to the east of the line and Spain everything to the west. Portuguese rule in India, the East Indies, and Brazil rested on this treaty. This privilege also had the sanction of the pope. To put it very briefly, in 1580 Philip II of Spain seized the Portuguese throne, which had fallen vacant and to which he had some blood claim. Portugal remained only theoretically independent. We can see from all of this what a pervasive influence European politics was to have on the non-European world following the 'Age of Discovery'!

4.5. The New Age

By 1500, there was a population growth under way which continued over the "long" 16th century until the second or third decade of the 17th century. Northwestern Europe (especially the Low Countries and the British Isles) witnessed great expansion. England's population more than doubled between 1500 and 1650. Cities also grew, at first slowly. The formation of cities of a size never achieved in the medieval period is a remarkable fact of the sixteenth and seventeenth centuries.

Capitals and administrative centers—such as Naples, Rome, Madrid, Paris, Vienna, and Moscow, proved the new powers of the state. The states thereby demonstrated the ability to mobilize society's resources in support of courts and bureaucracies. Commercial ports, which might also have functioned as capitals, formed a second set of large cities: examples include Venice, Livorno, Seville, Lisbon, Antwerp, Amsterdam, London, Bremen, and Hamburg. About 1550, Antwerp was the chief port of the

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north and it grew rich from the Portuguese colonial trade. Amsterdam, which replaced it later as the greatest northern port, grew in size till 1650. Late in the century, Amsterdam faced the growing challenge of another northern port, which was also the capital of a powerful national state—London. London then ranked below only Paris as Europe's largest city. Portugal in the early sixteenth century enjoyed a brief period of great prosperity. Lisbon dominated the colonial trade during this 'Age of Discovery'.

SAQ

Which countries are being referred to here ? (15 words)

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How does the history of colonialism affect the history of urbanization ? (20 words)

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Can we see the close connection between the 'Age of Discovery' and economic growth in Europe ? Is it clear by now that expansion and the discovery of new territory overseas is explained more by social changes than by particular events ? (40 words)

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The "Atlantic revolution", which made northwestern Europe newly important in terms of population and the concentration of large cities, was the redirection of trade routes resulting from the great geographic discoveries. The Atlantic revolution did not, however, replace the old lines of medieval commerce as to add to them. In the Middle Ages, Italian ports, Venice and Genoa in particular, dominated trade with the Middle East. When the Portuguese in 1498 opened direct maritime links with India, Venice faced the competition of the Atlantic ports, first Lisbon and then Antwerp. Nonetheless, Venice effectively responded to the new competition and attained in the 16th century its apogee of commercial importance. Genoa was not favorably located to profit from the Atlantic discoveries, but Genoese bankers played a central role in the finances of Spain's overseas empire and in its military ventures in Europe.

4.5.1. The emergence of modern Europe, 1500-1648; its economy and society

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The vigorous economic expansion of the 16th century played a major role in the many other transformations—social, political, and cultural—of the early modern age. The population in most areas of Europe was increasing after two centuries of decline or stagnation. In the words of the 20th-century French historian Fernand Braudel, the bonds of commerce within Europe tightened, and the "wheels of commerce" spun ever faster.

Europe was integrating into a world economic system due to the great geographic discoveries then being made. New commodities were making material life more comfortable. Many of these were imported from recently discovered lands.. New ways of conducting trade and managing production were increasing production of goods. The volume of capital which was being handled by merchants, bankers, and entrepreneurs was, for the first time ever, extremely large. This leads to the reason why most historians locate in the 16th century the beginning, or at least the maturing, of Western capitalism. Political life and international relations were being modulated by capital in a major way, not only in economic organization but also culturally. New values, many of them derived from the Renaissance and Reformation, diffused through Europe and changed the ways in which people acted. Capital now even colored the perspectives by which people viewed themselves and the world.

4.6. The Germ of the Colony

Expansion by itself could not produce wealth! The direction that expansion took was as important as expansion itself. The possibility of trade in the 'New World' was understandably not important at first. Something similar was the case in Asia. Colonisation followed expansion when it became clear that overseas possessions needed more nurturing. Spain and Portugal felt the effects of overseas discoveries first of all. Spain made little profit at first from its discoveries in the Americas. The Spaniards concluded that their possessions in the 'New World' needed settlement rather than trade and so it was on the third voyage that Columbus initiated the process. (He died after his fourth and final voyage to South America.) One result of this line of thinking was to use the settlements for agricultural

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profit. But gradually gold and silver would make an important difference to Spain and Portugal and to the rest of Europe.

SAQ

How does the search for profit lead to the setting up of the colony? (20 words)

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How is expansion itself made profitable ? (15 words)

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What could have been the other ways of making the settlements more profitable where agriculture was only one of those ways? (20 words)

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How did the European states respond to the discoveries? (30 words)

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Until the very end of the fifteenth century, the native peoples of the Americas lived virtually without contact with the rest of the world. The sudden appearance of Europeans after the first landfall of Christopher Columbus in 1492 had a cataclysmic effect upon them. Populations were wiped out or greatly reduced by new diseases. Even the sophisticated imperial systems built up by the Aztecs in central Mexico or by the Incas in the Andes proved unable to offer effective military resistance to Spanish assaults. The fate of the diminished native populations was either to be incorporated, mostly in subordinate positions as labourers or as peasant cultivators, into European colonies.

The descriptive term, 'New World', must be understood from the European point of view. The aboriginal American Indian cultures of Mexico and Central America prior to Spanish exploration and conquest of the 16th century, and the societies of western South America (the Andean region) constitute the 'New World'. These pre-Columbian civilizations were advanced societies and rank equally with the early civilizations of Egypt, China and Mesopotamia. Similar to these civilizations of the Old World, these 'New World' civilizations were characterized by empires and

kingdoms, cities and grand monuments, refined arts, literature, and metallurgy. In this 'New World' life was organized around an agricultural way of life.

Of these civilizations, Meso-American Indians, also called 'Mayan', occupied a nearly continuous territory in southern Mexico, Guatemala, and northern Belize. Before the Spanish conquest of Mexico and Central America, the Maya possessed one of the greatest civilizations of the Western Hemisphere. The Aztec are Nahuatl-speaking people who in the 15th and early 16th centuries ruled a large empire in what is now central and southern Mexico. The ninth and the last Aztec emperor of Mexico,also spelled MOCTEZUMA, is famous for his dramatic confrontation with the Spanish conquistador Hernán Cortés. The Incas are an Andean people whose origins are shrouded in mystery. The collapse of the Inca lands in the face of Spanish conquests is the subject of scholarly speculation.

The agricultural produce of the initial Spanish colonisation at first did not yield much profit as Europe was itself predominantly agricultural.The colonies of north-eastern North America, whether British or French, had populations of largely European origins. These settlers worked relatively small farms to raise mainly European crops. The native population had been dispersed from these settled areas or been eliminated either by war or by disease. The European crops grown here were cultivated here in 'plantations' which need heavy financing and large labour forces. Based on the huge demand for particular items such as tobacco, or sugar, in Europe, colonies in the Americas were shaped by these European needs. Crops like coffee, rice, sugar, indigo, or tobacco, were in high demand in Europe and these colonies now saw a high rate of immigration.

Mostly, these 'staple' crops were ones which needed heavy capital investment and big labour forces. By the eighteenth century, slavery flourished wherever staple crops were being raised for Europe. African slaves began to be brought in ever larger numbers to work in the plantations. In the course of the century, the British shipped some three million slaves across the Atlantic. The Portuguese shipped about 1,900,000, and the French about one million.

The growing demand in Europe for tropical produce, especially in the later eighteenth century, ensured an increasing supply of slaves from Africa. The trade in slaves helped to integrate West Africa, from where the slaves were mostly brought, with the Atlantic commercial system. In the late eighteenth century, Spanish colonies (Cuba and Venezuela in the

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Caribbean, particularly) were mostly involved in exporting tropical produce from plantations worked by slaves.

Stop to Consider:

The pattern of development should be kept in view: at first the colonies are locations for trade. As they become settlements, agricultural activities become more significant. Again, this agriculture is not for mere sustenance. It is tied to what is required for sale in Europe. European demand for agricultural products from other parts of the world becomes the key factor in deciding the kind of crops to be grown. Such crops are grown on huge plantations and this then leads to the demand for slaves. So the three sides of the Atlantic Ocean get connected! (It would be a good idea to refer to a map here!)

We must keep in view the demographic changes, too. Look at the 18th century: mostly Europeans inhabited the French or British colonies of north-eastern North America. There was a high rate of immigration from Europe into these colonies. Here, the native population was low in density. In the Spanish colonial centers in central and South America, in Mexico City and Lima (Peru) for example, there was a higher density of the native population. There was much more racial integration in these colonies, so there were large numbers of people of mixed race. Old Spanish families who had settled there a long time were known as creoles. Again, let us keep in mind that there were large imports of African slaves as well.

Check Your Progress:

1. What are the changes within European society that help to explain colonialism ?

(Hint: Technological changes, urbanization, among others.)

2. What is the nature of the connection between Western capitalism and overseas expansion ?

(Hint: The emergence of 'modern' Europe and the growth of commerce.)

3. Comment on the term, "New World".

(Hint: A vastly older world was 'new' for the Europeans !)

4. Enumerate the effects of colonial encounters in various parts of the world.

(Hint: Disaster, disease, and 'modernity' !)

5. Explain the meaning of 'mestizo', and 'creole'.

(Hint: Take the help of an encyclopedia.)

4.7. Effects on Europe

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The changes to Europe itself, brought about by overseas expansion, were many. Before the discoveries began, the European commercial revolution brought increased industry, more trade, and larger banks. Now it received stimulus from the overseas discoveries. Gold, or bullion, from America helped to create a money economy. This meant a replacing of the older and largely barter exchange. (The trend was already accentuated by greater European mineral production in the early 16th century.) Price rises resulted in many countries, largely from the influx of Spanish bullion. In England, prices rose massively. In addition to their lands in the European continent itself, the eighteenth century European nations were led to considering their overseas colonies as important factors in foreign policies as never before in European history. Britain enjoyed an unsurpassed advantage because of its naval superiority. It would exploit this strength to win its colonial rivalry with France.

The changes were, undoubtedly, slow to come. Only by the 1520s did the rich harvest of mineral wealth from the New World make the colonial possession, an especially important factor in the economic and political situation of both Spain and of Europe. Gold came in significant quantities by the early 1500s, almost doubling in amount by the next decade. By the 1560s it flowed in like never before. There was much export from the colonies to mainland Europe. The great mineral wealth which Spain gained gradually from her colonial conquests later made the colonies important to her economy. In the eighteenth century, about 90 per cent of the world's silver came from Spanish America from the Potosi mines (in modern Bolivia). Between the 1690s and the 1760s, for Europe the most important source of gold was the alluvial gold deposits discovered in southern Brazil. In this century, the amount of gold Spain received from her colonies upset the balance of power in Europe. (Ironically, Spain was a poor country by 1700.)

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SAQ

How did the two sets of relations, relations among the European nations themselves, and the relations between any European nation and its colonies in the so-called 'New World' affect the affairs of countries like England or France? (100 words)

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How does colonialism originate in the desire to make profits ? Why does colonialism not occur in the earlier age of feudalism? (80 words)

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There was spectacular growth in the population and wealth of most of the European colonies in the Americas. In the case of Spanish colonial power, in Mexico (New Spain) and Peru, were to be found the richest centers of colonial power in the Americas. The colonies' wealth was founded on the density of Indian populations, whose mortality rates had recovered despite the drastic decline after the conquests of the conquistadores and on great deposits of silver. Brazil experienced a great gold rush from Portugal due to its gold deposits. This was Europe's most important source of gold till the mines were worked out by the 1760s.

4.8. Colonisation and policies of state

The Spaniards realized the possibilities of America only with time. They had completed the occupation of the larger West Indian islands by 1512. Hernán Cortés entered Mexico from Cuba in 1519 and spent two years overthrowing the Aztec confederation, which dominated Mexico's civilized heartland.

From Mexico came much gold and silver and following upon the major Spanish conquests was a colonial period of nearly three hundred years . The Spanish empire was created in a time when absolutism flourished in Europe, reaching a height in the 18th century, so the colonies of Spain remained entirely under the king's sovereign authority.

In 1504, the Spanish sovereigns created the House of Trade to regulate commerce between Spain and the New World. Their purpose was

to make the trade monopolistic and thus pour the maximum amount of bullion into the royal treasury. This policy failed later for various reasons.

European states tried to put mercantile theory into practice. By this is meant the idea that the amount of gold and silver possessed by a nation is assumed to be the measure of its national wealth. In this sense, Spain had proved the point by assuming its greatest power when it was amassing gold from its colonial possessions. Mercantilism also meant the use of a nation's colonies as markets for the mother country's profit in finished goods made from the raw materials extracted from the colonies themselves. This would turn balance in favour of the mother country .The balance would be kept so profitable if this trade was monopolistic and no foreign intrusion was allowed. In 1565, Spain had already arranged its colonial trade to two annual fleets between Spanish shores and the Caribbean in which outgoing ships carried manufactured articles and returned to Spain partly with gold and silver.

This was the theory of mercantilism already in place by 1776 when the Scottish philosopher Adam Smith coined the term.

4.9. Colonisation, Trade and Conflict

The two main thrusts of expansion that had begun at the end of the fifteenth century and which eighteenth-century Europeans inherited, consisted of the movements to the west across the Atlantic into the Americas, for one, and the other eastwards to Asia, for the most part also by sea round the Cape of Good Hope (the southern tip of the African continent). By 1700 these two thrusts had produced very different results.

In the Americas the coming of the Europeans had led to a catastrophic decline in the native population. Their conquest extended over large areas, and led to the creation of European empires that covered much of the continent from the St. Lawrence River in Canada to Chile in the southern tip of South America. In Asia the European presence was still a very limited one.

From the very first contact Europeans had regarded the Americas as a continent subject to their imperial domination. In 1494, Spain and Portugal had divided the Americas between them. The French, the Dutch and the British redrew this political map in the seventeenth century.

The eighteenth century saw a further redrawing as the outcome of wars. In North America, the French and British laid claim to large expanses of territory. The French had to leave after 1763. The British, by the end

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of the century, had nothing more than the Canadian territories which they had recently acquired. In 1700, the Caribbean saw competition between Spain, France, Britain, the Netherlands and Denmark. The conflicts among these nations led to a redistribution of territories with the British gaining the advantage over the others.

Stop to Consider:

We can keep in mind the old adage: "Rome was not built in a day"! So colonialism was not a simple result of geographical discoveries. It was really the international politics within the continent of Europe which led to the actual use of the new colonies abroad. Colonialism also ties in with the maturing of European capitalism. The importance of the colonies depended on what was happening in Europe itself as much as on what was happening in other parts of the world.

If we can say that colonialism has much to do with nationalism, capitalism, mercantilism, and the advances in knowledge, we also have to say that it has much to do with the conquest of territory. The Spanish word for "conqueror", (plural 'conquistadores', or 'conquistadors') refers to any one of the leaders in the Spanish conquest of America, especially of Mexico and Peru, in the 16th century. An expedition against Aztec Mexico was led by Hernán Cortés.The conquest of Inca Peru was led by Francisco Pizarro and Diego de Almagro, adventurers from Spain who had originally settled in Panama. Pizarro founded a new capital, Lima, in 1535. The conquistadores were adventurers who established the settlements and colonies . For governance, administrators and settlers were sent from Spain.

Let us turn towards Europe in the century from 1700 - 1815 to find out why and how European states began to appeal to arms. We will have to be somewhat descriptive at this point because unless the overall picture is clear, we cannot use conceptual analysis.

From 1700 to 1789, international politics in Europe changed its focus from a wide alliance among the European states by which the predominance of France over the other states could be checked, to an accord between Britain and France. After that, in Europe, it became a system of balance-of-power in which any state which was stronger would gain predominance.

With this change in international relations in Europe, the period can be described as one in which states fought wars with each other not for the

sake of ideology or religion or even to destroy each other, but rather to acquire or to retain territory. Confrontations and conflicts also occurred due to the struggle for wealth. By the eighteenth century rulers were aware that military power was the result of commercial wealth and such economic desires became the bases of conflict over land, commerce, and populations both within Europe as well as in the colonies.

European history should be kept in sight for an understanding of foreign affairs of the European states in this period. French predominance at this time can be understood if we refer to the "War of the Spanish Succession"of 1701-14 in which the question centred on the succession to the Spanish throne in the Habsburg line.

We must also refer to the colonial wars of the first half of the 18th century. From 1689 to 1763 the British and French fought four wars that were mainly European in origin but which determined the colonial situation, in some cases for two centuries. Spain entered all four, first in alliance with England and later in partnership with France, though it played a secondary role.

In the first half of the eighteenth century the colonial populations and colonial economies, with exceptions like Brazil in its gold rush, tended to grow slowly. In terms of governance, colonial administration came into existence only over time. There was generally a kind of equipoise between local interests, whose disobedience usually stopped short of open defiance or rebellion, and metropolitan authority, which was not exerted in ways that encroached too strongly on established privileges and autonomies. Colonial powers fought wars but without doing much damage to one another's empires.

The situation was set to change by the middle of the century: trade across the Atlantic had increased greatly in volume. This was true for all colonies. Population had also increased. In the Americas war had increased in scale and intensity from the Seven Years' War till 1763.

Stop to Consider:

Extended contest for mastery over overseas territory included 1689-97 (King William's War), 1702-13 (Queen Anne's War) and 1744-48 (King George's War). This 'Great War for the Empire' included the 'French and Indian War' as the Americans called it, and was carried on in America. The Seven Years' War (1756-63) was the last major conflict before the French Revolution to involve all the great powers of Europe. France, Austria, Saxony, Sweden, and Russia were aligned on

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one side against Prussia, Hanover, and Great Britain on the other. The war was a sequel to the War of Austrian Succession of 1740-48. But this war also involved overseas colonial struggles between Great Britain and France, the main points of contention between these two traditional rivals being the struggle for control of North America and India.

In these wars Englishmen and Frenchmen vied for control over the Indians, for possession of the territory lying to the north of the North American colonies, for access to the trade in the Northwest, and for commercial superiority in the West Indies. In most of these encounters France had been aided by her ally, Spain. Notably, whereas previous contests between Great Britain and France in America had been mostly provincial affairs, with American colonists doing most of the fighting for the British, the Great War for the Empire saw sizable commitments of English troops to America.

We can see a close connection between the volume of colonial trade and the scale of warfare in the Americas. Colonial trade contributed to state finances of European nations making the American possessions of great importance. In this context, it became a matter of concern to all the European states that each should try to put up strong defences of their colonial possessions. At the same time, each tried to disrupt the trade of rivals so that there would be no threat of war in Europe from such enemies.

Such a feeling was bound to cause changes in the administration of the colonies: colonial governments had to be made firmer for better revenue and tighter control. The British, for example, raised their taxes, and tried to enforce trade regulations more rigorously. So, these fresh interventions by the metropolitan authorities, against a background of faster economic growth and war, led to more disorder in the Americas.

In British North America there was rioting, as in the Caribbean where there slave rebellions. There was rioting in Spanish America as well. The great Indian revolt of Tupac Amaru took place in Peru about 1781. (Tupac Amaru was a descendant of the last Inca ruler.) We can see that in the second half of the eighteenth century, colonial people of European origin, in the American colonies were dissatisfied with the metropolitan authorities in Europe who were exerting their control more rigorously. The elite sections of American society in British North America resisted colonial authority partly because they had grown used to long-established local autonomy. They had developed a sense of their own separate identity. The change in colonial power which asserted itself so openly broke their earlier loyalty to the metropolitan country.

The time had come for the American colonies to wrest freedom from their old loyalty to metropolitan authority in Europe, as in British N. America and the West Indies.

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SAQ

Who carried on the business of governance in the colonies? (30 words)

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How do we differentiate between "colonial authority" and "local autonomy" ? What is meant by "metropolitan authority"? (50 words)

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What could have been the causes for the colonies developing their own identity ? What leads to the breaking away of the colonies from the metropolitan authorities? (80 words)

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4.10. The Second Phase

Britain lost her thirteen colonies on the North American seaboard in the War of American Independence (1775-83). These colonies had figured largest in British calculations, and their loss had to be compensated. This was done through conquest in India, where initial success around Madras led to greater gains in Bengal, Bihar, and Orissa. In turn, these new territorial gains provided the men and money for expanding control of the East India Company over the rest of the subcontinent.

While the European empires were disintegrating in the Americas, new empires were being created in Asia. The British had subjugated large parts of India, bringing, it was thought, some forty million people under their rule. Meanwhile, the Russians were pushing south-eastwards overland into Central Asia. A new global configuration was clearly emerging: the Americas would be dominated by new republics, politically independent but still closely tied economically and culturally to Europe; new European empires of rule over non-European peoples would extend into Central Asia and from India to south-east Asia and into Africa.

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SAQ

Can we see any difference between colonial expansion in the west and in the east? (50 words)

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How do we account for the growth in population and wealth in the colonies ? (60 words)

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What is the explanation for the challenge to the metropolitan countries from the colonies ? (30 words)

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What is implied in the term 'republics'? (30 words)

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When we compare the effects of colonialism in America and in Asia, we find a significant difference. The economic system of the Americas in the eighteenth century was a European creation because the Europeans organized the extraction of minerals or the cultivation of land, usually with crops and animals that they had introduced. In Asia, the situation was entirely different. There Europeans became participants in Asian economic systems. Their needs constituted only a limited part of vast networks of trade, both by land and sea.

By the beginning of the eighteenth century methods of trading with Asia were well settled. Trade was largely entrusted to bodies capable of substantial funds and undertaking risk. The British, the Dutch, and the French conducted their trade through private East India companies. In the case of the Portuguese, a state corporation called *Estado da India,* conducted the trade.

4.10.1. European Colonial Activity (1763 - c.1875)

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There was a convergence of developments in the early 1760s. We may call it a new stage in European expansionism, especially so in the case of the most successful empire builder, Great Britain. The Industrial Revolution in Great Britain and the consequences of England's decisive victory over France in the Seven Years' War can perhaps be seen as the beginnings of what turned out to be the second British Empire.

Its commanding position on the seas provided an opportunity for it to probe for additional markets in Asia and Africa as well as to try to break the Spanish trade monopoly in South America.

The scope of British world interests grew to spread over the South Pacific, the Far East, the South Atlantic, and the coast of Africa during this period. Initially, this spurt of maritime activity was aimed at attaining a wide network of distant trading posts and maritime bases. These would help in broadening the spread of foreign commerce and monitoring ocean shipping routes. But later these bases served to launch more territorial conquests.

The Asian commodities in demand among Europeans in the sixteenth and early seventeenth centuries had been pepper and other rare spices such as nutmeg or cloves. With the eighteenth century more items were included in the trade: textiles, cotton cloth, raw silk from India, tea from China, and coffee from Arabia and Java. There was fierce competition among the European countries for Asian trade. Lisbon, Amsterdam, London, and Paris all strove to be the main distribution point from which the European demand for Asian goods was met.

There was relative stability for the Europeans in maritime Asia in the earlier part of the eighteenth century. However, there was periodic war along Asia's land frontier with Europe. Definitions of 'Europe' and 'Asia' were still unclear. The Turks were no longer the scourge of Christian Europe as they had been earlier.

By the late eighteenth century, in maritime Asia, the British were engaged in building their empire in India. Elsewhere, the Russians won great victories in warring with the Turks.

The position of the British in India advanced very rapidly. In 1745 the East India Company was a trading body in India. It was in

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control of three now considerable port towns, Bombay, Madras, and Calcutta. In 1765, the British were the *de facto* rulers of Bengal and its adjacent provinces. The area covered a population thought to amount to at least twenty million people. The British had also acquired some territory and political dominance in the south-east of the Indian peninsula. And they were extending their influence far up the Ganges valley over the state of Awadh (Oudh). British success in India was disastrous for French trade with Asia. In the late-eighteenth century wars it was virtually closed down. The Dutch trade was also severely damaged.

Two European movements converged on Asia in the late eighteenth century: the Russians overland and the British by sea. The latter, of course, were the most successful in achieving their aims.

In the aftermath of American independence British imperial interests moved to other areas. We can include the beginning of the settlement of Australia in this context. However, the pursuit of conquest in India had greater importance in terms of effort and achievements. The British assumed control over the province of Bengal after the Battle of Plassey, 1757. After nearly completely removing French influence from the Indian Ocean, the British waged more or less continuous warfare against the Indian people as they gained more and more of the interior. Resistance to the foreign intrusion came mainly from the Marathas but they were decisively defeated in 1803. Military resistance of one sort or another continued, nevertheless, until the middle of the 19th century.

Check Your Progress

1. Briefly outline the nature of conflicts between colonizing nations in the late 17th and 18th centuries.

(Hint: Trade was a crucial factor and so was territory. Also, the force of arms at home.)

2. Explain the connection between colonial rebellion and the new phase of imperialism.

(Hint: What happened in North and South America gave reasons for developments in Asia.)

3. Explore the reasons for British success in the second phase of imperial expansion.

(Hint: The strength of its navy, the Industrial Revolution at home, its victory over France, among others.)

4. What are the differences to be seen between colonialism in the Americas and in Asia?

(Hint: Asia figured very strongly in the second phase and in the British empire. Methods differed, too.)

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4.11. The Age of Imperialism

The consequences of colonial expansion have been so visibly demonstrated that they need almost no recounting. As with any historical process much can be said about both benefits and adverse effects. Yet we can recall this historical turn by surveying what happened to the Indian populations in the American colonies. The heavy mortalities that these peoples suffered and the catastrophic encounters with waves of European immigration are matched only by the enslavement of the Brazilian Indians, and more devastatingly, of the African people. As the use of black slaves spread throughout the Americas, the African slave trade across the Atlantic reached its largest proportions in the eighteenth century. In Australia, when the first British colony was set up in New South Wales in 1788, the Australian aborigines suffered the particularly severe effects of this contact with new afflictions.

Part of the history of European expansion is the account of how Europeans organized labour. European labour had no scope in Asia. In the Americas, only in Mexico and Peru, and to some extent in Brazil, could the native population be taken as labour. In the seventeenth century, European 'servants' were imported into all the American colonies. Labour for the plantations came overwhelmingly from Africa in the eighteenth century.

The "age of imperialism" began in the 15th century with the initiation of the Portuguese Empire and also the Spanish Empire in the Americas. It can be said to have lasted until the mid-20th century with the dismantling of the British Empire. Many historians regard the nineteenth century as extending from 1776 to 1914, in seeing it as a period of continuity. The period of "new imperialism" is thought to cover the years from about 1875 -1914.

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Stop to Consider:

A number of questions in your mind should spring up at this point!— Are we going to do all of colonial expansion all over again ? Haven't we finished with "empire" ? What is "new imperialism" ? The reemergence of colonial rivalries is thought to characterize the " new imperialism," with at least two developments in the late 19th and in the beginning of the 20th century signifying a new phenomenon: the noticeable speedup in colonial acquisitions and the increase in the number of colonial powers.

4.11.1. The West and the World

Colonial expansion of European nations across the world invariably brings us to the question of how the West spread its influence over the non-European world. Western influence, which came with colonisation, is often equated with modernity. The other term which we should keep in mind in connection with colonialism and imperialism, is 'capitalism'.

Thinkers are not yet fully agreed on what gave rise to modernity. The related question is why some agrarian societies changed into industrial society. But it is generally agreed that modernisation and industrialisation took place between the 16th and 18th centuries and that it began in the countries of northwestern Europe — especially England, the Netherlands, northern France, and northern Germany.

This process is difficult to understand if we remember that compared to the Mediterranean, (not to mention Arabic and Chinese civilizations), northwestern Europe early in the 16th century was technically and culturally backward. Yet it was these very places which witnessed such changes that they assumed the subsequent economic leadership of Europe.

One reason suggested as explanation is that northwestern Europe was the origin and heartland of the Protestant Reformation of the 16th century. The German sociologist, Max Weber, in his great work The Protestant Ethic and the Spirit of Capitalism (1904), suggested that unlike Roman Catholicism and even Eastern religions (as Hinduism and Buddhism), Protestantism broke down the distinction between the church and the world, between the monastery and the marketplace. The Protestant work ethic was suited to the rise of capitalism because it placed all work and all occupations on par with religious vocation. Other historians have

disputed Weber's thesis and have shown that the early development of capitalism and of industrial organization preceded the rise of Protestantism. The Protestant work ethic has been linked to the development of modern science which, again, was largely located in northwestern Europe in the 17th century.

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4.12. Summing Up

After this long exploration of the history of imperialism, what remains to be said? History should be read with maps especially with this history which brings in together many different parts of the world. European history is often said to be the subject, whose 'object' is the rest of the world. Nowadays we use terms like 'Eurocentrism' to challenge the evaluation of all things non-European by standards laid down in Europe. There is a whole intellectual movement by the name of 'post-colonialism' which investigates the foundations of Eurocentric standards, which recognizes the prevalence of discourses deriving from the history of colonial encounters. Many eminent thinkers like Edward W.Said, Aijaz Ahmad, Franz Fanon, have contributed to the study of the processes of colonialism. For lack of space here we have had to focus only on the variegated fabric of civilization of the 'modern' world. What should be clear by now is the complexity that must be taken into account when we study society in transition. It would be too naive to understand the history here as the sequence of events leading from one political episode to another. We should also keep in mind that the account given here is meant to be the set of reference-points which explain, for instance, the particular direction in trading practices or the perspective provided by a term like 'modern' after the 1880s. So would be the idea of 'development' when used to describe a former colony. Your best course to follow hence would be to study the discourse of 'postcolonialism'.

4.13. References and Suggested Readings

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Unit 5 : The British Empire: Its Consolidation and Crisis

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Unit Structure:

5.1. Objectives

After reading this unit, you will be able to:

- *Learn* about the consolidation of the British Empire.
- *Learn* the aftermath and what led to its decline.
- *Understand* the concept of nationalism.
- *Know* about the long struggle for freedom the colonies fought for.
- *identify* the different political processes adopted against colonialism.
- *name* important dates in recent world history.
- *describe* imperialist concerns in the 20th century.

5.2. Introduction

The first event that initiated the entire process of colonialism, especially in India, was the establishment of the East India Company. They came to India around 1599 as a means to establish trade and commercial engagements and later became a political power that eventually ruled the country. They rose to power by means of providing a secure financial base for its powerful mercenary army. The land revenues of Bengal and other parts of the colonized states contributed to generate a massive wealth that

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assisted the British to sustain their military expenses. However, not long before the East India Company's rule began to weaken with the Great Rebellion of 1857, which blew up its foundations. This unit shall discuss how the British maintained their power and dominance over the colonized subcontinent in the early years that gradually began to slacken with the rise of nationalism in the colonized states, gradually leading to its decline.

5.3. The British Empire

The British Empire, as a whole, comprised of colonies, dominions, mandates, protectorates, and territories around the globe. What began as a trade and commercial endeavour, eventually ended up being the greatest colonizers on Earth in world history. The consequences of this expansion led to a wide expanse of constitutional, legal, as well as cultural legacy, such that it was described as "the empire on which the sun never sets" because the sun is always rising in atleast on one of its many territories. The date, 1763, shows the first British Empire primarily centered on North America. Despite the loss of the thirteen American colonies, by 1815, Britain had a second empire. This empire straddled the globe from Canada and the Caribbean in the Western Hemisphere around the Cape of Good Hope to India and Australia. Britain's tremendous maritime power and a half century of global expansion had given her this primacy. We have to note here that this was the period also of important changes in British society which would influence the organization of the second Empire. One of these decisive changes in British society was the dependence on industrial enterprise rather than on mercantile enterprise.

5.4. The Consolidation of the British Empire

The British expansion and a consolidation of their power in Indian sub-continent saw its beginning with the Battle of Plassey in 1717. As we have seen, a prime factor contributing to the abatement of inter-colonial rivalries was the undisputable supremacy of the British Navy during these years. Nonetheless, despite the relative calm and the rise of anti-colonial sentiment in Britain, the period was marked by a significant wave of European expansionism. In terms of the extent of control in 1800 Europe and its possessions, including former colonies, claimed title to about 55 percent of the Earth's land surface: Europe, North and South America, most of India, the Russian part of Asia, parts of the East Indies, and small sections along the coast of Africa.

There was indeed an exception to colonial growth in this period; the Portuguese and Spanish empires in the Western Hemisphere declined during the early 19th century. By 1825, Spain no longer had any colonies in South America itself, except the islands of Cuba and Puerto Rico. In the same period Brazil achieved its independence from Portugal. Such events facilitated the British economy through commercial treaties signed with these young nations. In spite of the lack of an imperial role here the British were able to attain economic advantages in South America. Paradoxically, the collapse of the Spanish and Portuguese empires led to the decline of colonialism in the Western Hemisphere while also paving the way for a significant expansion of Britain's informal empire of trade, investment, and finance during the 19th century.

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5.5. The rise of "New Imperialism"

The re-emergence of colonial rivalries marks the period of "new imperialism". Two trends among the European nations in these years are to be noted: an acceleration in colonial acquisitions and an increase in the number of colonial powers. The new imperialism of this period had less of new acquisitions and more of consolidation of territory already claimed. Areas still independent were brought under control as almost all of Africa, a sizeable part of Asia, and many Pacific islands. Indeed, the rate of new territorial acquisitions of the new imperialism was almost three times that of the earlier period.

By the time of the First World War (1914) colonial control had been for the most part fully established with the suppression of the main military resistance of the indigenous populations. Hence, in 1914, the colonial powers, their colonies, and their former colonies extended over approximately 85 percent of the Earth's surface. The new imperialism was characterized by the emergence of additional nations who wanted to reap the fruits of colonialism: Germany, the United States, Belgium, Italy, besides Russia (and for the first time), Japan. This addition to the number of colonial powers, within a relatively short period, hastened the tempo of colonial growth since more nations sought more additional colonies at about the same time, the greater was the premium on speed. This caused a new surge in the rivalry among the colonizing nations.

The set of states which achieved the economic and political conquest of the globe about 1880, were united by history and economic development. They were 'Europe', consisting of regions mainly in north-western and central Europe and some of their overseas settlements which

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formed the main centres of captialist development. 'Europe' also included those southern regions which had once been important to capitalist development but had become insignificant since the sixteenth century. These had also been the conquerors of the earlier European overseas empires, i.e. Spain, Portugal, Italy. Briefly, large parts of 'Europe' were on the margins of capitalist economic development and bourgeois society. For example, Portugal, in this period, was 'European' not because she was an advanced, capitalist country but because of her history on account of which she still retained her African empire. By contemporary standards, Portugal was small, backward and feeble.

The topic of 'imperialism' has aroused diverse opinions regarding the degree to which the new imperialism was the product of primarily economic forces. In particular, it is also debated whether it was a necessary attribute of the capitalist system. Serious analysts recognize that there is a whole range of factors involved in the definition of imperialism. Many thinkers recognize that political, military, and ideological influences were also at work in the phenomenon of imperialism. At the same time, there are many who, while disputing that imperialism is only economic, acknowledge that economic interests played a significant role. The question is thus of selecting the causes according to priority.

SAQ

What can be meant by the clause: "imperialism is only economic" ? (40 words)

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Why should capitalism be connected with imperialism ? (80 words) (Suggested approach: if the meaning of "political" is taken in a very wide sense, the connection becomes quite plain.)

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John Atkinson Hobson, in his seminal study, *Imperialism, a Study*, first published in 1902, is generally thought to be the theorist of the economic interpretation of the new imperialism. Hobson pointed to the role of such drives as patriotism, philanthropy, and the spirit of adventure in advancing the imperialist cause although, according to him, the important

question was as to why the force of these active agents takes the particular form of imperialist expansion. He thought the answer was to be found in the financial interests of the capitalist class as "the governor of the imperial engine."

Imperialist policy, according to Hobson, can be explained if it is taken into account that income is not evenly distributed. Large firms face limited opportunities for investment when domestic demand is limited. The monopolistic behaviour of the larger firms drive them to open up new markets and new investment opportunities in foreign countries. Hobson included in his study the corollaries of imperialism: nationalism, racial attitudes and politics. Hobson's study was used by many Marxist thinkers who struggled against imperialism.

Turning to the consequences of imperialism, we can appreciate the fact that while in one sense the world was becoming demographically larger, it was growing geographically smaller. Inevitably, it was also more global on the one hand, and on the oher it was drifting into division. If we list the paradoxes, there had been rich and poor regions, advanced and backward economies and societies, and stronger and weaker units of political organization and military force in the 1780s, as in all other ages of recorded history. The great belt of the world which had nurtured class societies and more or less lasting states and cities, was separated from the zones to the north and south of them. Within this large belt, which stretched from Japan in the east to the shores of the mid- and North Atlantic and through European conquest into the Americas, lived the bulk of humanity and the disparities were not yet insurmountable though large.

As a famous historian has observed, the disparities, among the regions which are today called the 'developed countries', were small. By some estimates, between 1750 and 1800, the 'per capita gross national product' in these 'developed countries' was substantially similar to that of the countries now known as the 'Third World'. In the nineteenth century the gap between the western countries, which provided the base of the economic revolution which was transforming the world, and the rest of the world widened. This occurred at first slowly, and later with increasing rapidity. By the eve of the first World War, by 1913, the per capita income in the 'developed' world was more than three times higher and increasing, than that in the 'Third World'.

5.6. Decline of Empire

Nineteenth-century imperialism had been perpetuated initially through informal means of trade and commerce, and then reinforced with formal annexation. However, the growth of formal imperial authority of the

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British Empire has also been seen in terms of a progressive decline of Britain's economic and political power after 1870 as it had to face increasing competition from rising capitalist economies as the United States of America as well as from other imperialist powers as France and Portugal which were also trying to consolidate their hold on world affairs.

SAQ

Is there any special significance in '1870' ? (20 words)

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What is the connection between trade, commerce and annexation ? (30 words)

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Thus, it has been argued that the expansion or widening of the formal empire by Britain, especially in Africa and Asia, was only a poor compensation for its shrinking informal economic empire elsewhere (Cain and Hopkins: p. 9). Moreover, towards the end of the nineteenth century, the disastrous consequences of the Boer War (1899 - 1902) to the British economy also exposed the fault-lines in the Empire. Though the Boer War cost Britain more than the combined cost of all her other imperial endeavours, it could not destroy the social and political structure that the Boers had established independent of and despite British rule. It laid bare the inefficiency and the sense of insecurity of the British government regarding its colonies even as it elicited a suspicion among the British intelligentsia regarding government policies towards rival nations as well as its colonies.

5.6.1. The Boer War

The Boers were descendants of Dutch settlers (although there were originally other peoples as well), and the word 'Boer' means 'farmer' in Afrikaans. They were settlers in South Africa, around the Cape, who came there in the mid-seventeenth and eighteenth centuries.

There were two Boer Wars: the first stretched from 1880 - 1881, while the second was from 1899 - 1902. The background to this was related to the gold rush which brought British and other prospectors to the Transvaal.

The idea of imperialism was itself subject to much debate in that while the metropolitan imperial power increasingly subscribed towards a democratic structure, within the colonies, however, autocracy was enforced, which was "based on the combination of physical coercion and passive submission to a superiority so great as to appear unchallengeable and therefore legitimate" (Hobsbawm: p.82). At the same time, by the first decade of the twentieth century, Britain had by and large accepted the independence of the colonies having predominantly white settlements.

Although the British Empire tried to retain a veil of complacence and stability over its formal authority in the colonies, there was an increasing sense of imminent crisis, something that had been set in motion by the Boer War and reinforced by the accelerating freedom movements in such colonies as Egypt and India, and closer home, in Ireland. The African and Asian colonies in particular had exploited their access to new ideas in education and other fields and were thus able to assimilate and use them against the occupying imperial power.

Stop to Consider:

The settlement which created the Irish Free State in 1922 brought "a marked change in the formal designation of the Empire as a whole". The exercise was one of nomenclature but it reveals imperialist difficulties. David Thomson writes, "The original 'Articles of Agreement for a Treaty' referred to ' the Community of Nations known as the British Empire'. The Constitution of the Irish Free State, in 1922, described it as 'a co-equal member of the Community of Nations forming the British Commonwealth of Nations'. . . .The phrase matched well the new conception of a free association of equal partners, and was meant to reassure Irish susceptibilities."

Ireland was followed by India in the rising tide of anti-imperialist nationalism. Although in 1917, Edwin Montagu, Secretary of State for India, spoke of 'responsible government' as British hopes for India as "an integral part of the British Empire", the Montagu-Chelmsford reforms proposed in 1918 were too insubstantial to realize self-government. Gandhi's campaign thus had to forge ahead, through Jallianwala Bagh, until his imprisonment in 1922, when he had to suspend it due to the tendency for it to exceed the limits of civil disobedience.

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5.7. Newer Concepts

In 1922 the Irish Free State was designated by its Constitution as "co-equal member of the Community of Nations forming the British Commonwealth of Nations." Such a concept of 'Commonwealth', between 1924 and 1929, began to replace the older one of the 'British Empire'. It was a case of either recognising the full autonomy of white dominions, as in the Irish Free State, Canada, Australia, New Zealand, South of Africa; or of moving towards delegating power and devolution of responsibility to governments in other parts of the Empire as India, Ceylon and Malaya.

British foreign policy had already been confronted with the autonomy of the Dominions with regard to their separate representations in 1919 in the peace conference, their separate membership of the League of Nations and certain other matters. Such new practices, supported by the fact that the Dominions exercised autonomy over their internal affairs and growing demands for self-government, or independence, for India meant that it was time to visualise a new 'Constitution' for the Empire.

In 1926 Imperial Conference, the definition of dominion Status was adopted which accepted that they were "autonomous communities within the British empire, equal status, in no way subordinate one to another in any aspect of their domestic or external affairs, though united by a common allegiance to the Crown, and freely associated as members of the British Commonwealth of Nations." Understandably, 'Dominion status' was a goal other parts of the Empire could aspire to. It was time for the Empire to proceed to a new configuration.

An important factor which passed through the breadth of the Empire was trade. A high proportion of British trade was comprised of trade with the countries of the Commonwealth. In this context, India had a remarkably large role to play as both importing and exporting country. Problems for the British Empire arose from the fact that countries like India and other agricultural states could turn to other sources of supply as they were becoming more industrialised.

SAQ

What could have been the reasons for the backwardness of the colonies ? (40 words)

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5.8. Indian Nationalism

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The first partial retreat of the British Empire was made in the granting of partial independence and autonomy to Ireland and Egypt during 1921-22. The freedom movement in India was meanwhile also gaining new momentum with the Indian National Congress (founded in 1885) becoming a powerful and influential agent. There was also a parallel but more aggressive movement gathering force in Bengal at the same time. In South Africa, which was home to a large community of Indian immigrants, became the site of the first and successful implementation of passive resistance advocated by Mohandas Karamchand Gandhi, who had started his political career here by founding the Natal Indian Congress in 1894.

By the time Gandhi came to India (after the First World War had started in 1914), the Indian National Congress was already trying to spearhead and channelise the discontent and anger of the educated middle classes against repressive and discriminatory British policies. Significantly, the party included in its ranks a number of Western, chiefly British, sympathisers such as Allan Octavian Hume (who was actually one of its founders) and Annie Besant. There were also non-secular, more traditional and religious movements that tried to counter British cultural invasion by rigorously reinforcing the indigenous religious traditions of India.

However, the greatest impact against British imperial policies at this point was made in 1919 by Gandhi's declaration of 'Satyagraha', the first application of passive resistance in India after its success in South Africa, which took the freedom movement to a wider spectrum of Indians. The subsequent refashioning of the INC into a party catering to the aspirations not merely to the middle class but to the masses at large irrespective of caste, class and language and continual resorting to non-violent resistance made the freedom movement in India wider and greater in impact, ending with the gaining of Independence in 1947.

Such wide-ranging national movements went a long way in shaking the apparently secure base of the imperial powers, in this case, Britain. But it was also acknowledged that the colonial situation itself was a self-defeating one in that it engendered possibilities for its eradication by trying to create an efficient and educated section of lower administrators who thereby had access to Western ideas in culture, politics and other fields which they could effectively incorporate within their own quest for freedom.

Thus, there were several consequences of European appropriation of Asia and Africa in that, in the words of Geoffrey Barraclough, "First, it

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acted as a solvent of the traditional social order; secondly, it brought about substantial economic changes; finally, it led to the rise of western educated élites which took the lead in transforming the existing resentment against the foreigner and foreign superiority into organised nationalist movements on a massive scale" (Sinfield.141). At the same time, however, the crisis of empire was not equally damaging for all the imperial powers. In fact, more than any other power, it was Britain which came out of the decolonising process most unscathed, since it was by and large consensual. Moreover, the increasing tendency towards globalisation and free trade in the West made it imperative that the colonies be disbanded so that their markets could be made free of the restrictive and protective trade practices of the mother country. As a result, the process of decolonisation took on a greater rapidity and urgency especially during the inter-war years and after the Second World War.

SAQ

Name other imperial powers of the period. (30 words)

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5.9. From Decolonisation to Crisis

During the First World War, the British Empire had been able, by and large, to preserve its consolidated state, even though the Boer War had left a deep impact. In fact, as mentioned earlier, this war and its consequences exposed an undercurrent of insecurity and anxiety which would come to haunt the imperial and colonial powers from the end of World War II.

Even during the First World War, the excessive casualties suffered by troops sent by the Dominion countries (that is, colonies which had been granted responsible government by Britain) ignited widespread resentment against the British policy of conscripting private citizens who were medically fit for army services. The Treaty of Versailles in 1919 which gave Britain major chunks of Africa and Middle-east Asia only added to the political and economic burden of perpetuating an extensive empire which seemed to be outliving its efficacy and significance.

With the rise of newer democratic sensibilities in Britain, coupled with the acceleration of nationalistic movements in the colonies, Britain granted

independence to Egypt in 1922 and to Iraq in 1932 in order to minimise the risk of entire disintegration of the empire. The Statute of Westminster in 1931 also granted constitutional autonomy to the Dominions. The Jalianwallah Bagh Massacre meanwhile also added fuel to the nationalist fire in India, forcing the British government in India to introduce large-scale constitutional reforms. Although not on the same scale as India, the African colonies also expressed resistance from time to time against colonial rule. Not only the British but the other empires as well - German, French and Portuguese - were undergoing rifts within themselves during the period during and between the two World Wars.

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5.10. Decolonisation and the Rise of Nationalism

The Second World War (1939-1945) signalled not only the beginning of a new world order but the disintegration and decolonisation of the earlier imperial and colonial powers. Britain, of course, did not have to confront severe military resistance by its colonies, unlike some others such as the French Empire. The French were forced to withdraw after violent warfare and massacres from Vietnam during 1946-54, Madagascar (1947-8), Morocco (1952-6), Algeria (1954-62), and Cameroon during 1955-8 (Howe: p.105).

British decolonisation, on the other hand, involved more nationalist ideologies, strikes, riots, imprisonment, and most particularly, as in India, the method of Peaceful non-cooperation on the part of the people. There were also the imperatives imposed on and promises of liberation and right of self-determination made by Britain during and after World War II that hastened the process of decolonisation.

5.10.1. Nationalism

"During several struggles against colonial rule in the twentieth century, the myth of the nation has proved highly potent and productive. It was popular with a variety of independence movements because it served many of their intellectuals and leaders behind which resistance to colonialism could unite. Speaking in 1970, Amilcar Cabral, a leading figure in the independence movement in Guinea-Bissau, described the contemporary conflict within several African colonies (as, indeed, it was in many other colonies in other parts of the world previously) specifically as one of 'national liberation in opposition to imperialist domination' . . . The nation became mobilised as a powerful symbol which anti-

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colonial movements used to organise themselves against colonial rule. If colonialism had condemned millions to a life of subservience and dispossession, then anti-colonial nationalisms promised a new dawn of independence and political self-determination for colonised peoples. Many colonies were represented in this period as nations-in-chains, shackled by the forces of colonialism, whose peoples had been alienated from the land which was their rightful possession and which would be returned to them once independence dawned. In making these kinds of claims, anti-colonial nationalist movements were often working with the national territorial borders that had not existed prior to colonialism and were often fixed by the colonising nations. For example, at the Berlin Conference of 1885 the Western powers divided up Africa between them by drawing arbitrary borders around various parts of the continent. The colonial borders of these new 'nations' ignored the Africans' own maps of the continent. In some cases they divided into two indigenous tribal lands; . . . .

So, in calling for national liberation from colonialism, many anti-colonial nationalisms were working with the map of the world drawn by the colonisers. This was, on the one hand, an expedient and effective manoeuvre in the struggle for independence, but on the other it proved a potential source of problems in the post-independence period . . . .To complicate matters further, one of the most important results of Empire was the movement of peoples across the globe — of Africans and Indians to the Caribbean, of Europeans to America and Australasia. For these migrant peoples, their relationship with the land was complicated. . . . Which nation was 'truly' theirs ?

So, the imagining of a sense of simultaneous national identity for often heterogeneous groups of people in the colonies has always had to face several challenges. " - John Mcleod, Beginning Postcolonialism

Consequent to these developments, in Asia, India and Pakistan gained independence in 1947, while Ceylon (now Sri Lanka) and Burma (now Myanmar) gained theirs in 1948. Hong Kong was the lone British colony in Asia since 1950 until it was eventually handed over to the People's Republic of China in 1997. In Africa, the Gold Coast became the independent nation of Ghana in 1957, while Sudan gained independence in 1956, Nigeria in

1960, Sierra Leone in 1961, Tanganyika (later becoming Tanzania) in 1961, Uganda in 1962, Kenya in 1963, Zambia and Malawi both in 1964, Gambia in 1965, Botswana in 1966, and Swaziland in 1968. Rhodesia, on the other hand, had to suffer years of guerilla warfare before finally becoming independent as the nation of Zimbabwe in 1980. The West Indies also became independent during the 1960's.

Parallel to the idea of decolonisation there developed the concepts of nationalism and nationhood. Nationalism has been defined as an "ideology which affirms the autonomy of the nation-state and is usually represented by political movements that seek national unity or, as in the case of colonialism, independence from external rule" (Thieme.181). This is accompanied by a deliberately essentialist distinction of the race or nation from the colonising power which casts a positive image of the very difference previously used by the coloniser as a justification of invasion. For example, the apparent purpose that was projected by the East India Company and later the British Government was of civilising the natives through Western learning, religion, and science so that they could overcome their beliefs in superstitions and a false spirituality. But the nationalist movement in India, on the other hand, adopted that same spirituality in order to project the nation and its culture and civilisation as infinitely superior to and more enlightened because of its deeper roots than the British culture.

The vision of an identity separate from the colonising country was at the root of the nationalist tendencies in such British colonies as Australia and Canada even though, paradoxically, the white settlers themselves were the successors of their British colonial ancestors who had decimated and subjugated the native Aborigines and Indian tribes respectively in the two territories. Nevertheless, as a result of such strong anti-colonial nationalistic sentiments, Britain was forced to grant independence to these two Dominions, along with New Zealand and South Africa in 1931.

Similarly, but on a much larger scale, the nationalist movement in India under the leadership of Mohandas Karamchand Gandhi, popularly known as Mahatma Gandhi, became an inspiring model for other colonies in Asia, Africa, and the Caribbean. The eventual independence of India was the peak of the crisis in the

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British Empire and signalled its ultimate disintegration. It was accompanied by the awareness within India as well as Pakistan of being a free, separate nation, having its own individuality, and having the potential to determine and regulate its own policies and ideologies.

This period of crisis in the British Empire was extensively mapped in English literature of the time, such as E. M. Forster's *A Passage to India* and Paul Scott's tetralogy *The Raj Quartet*.

The nationalist tendency asserted itself yet again in Egypt and brought the culmination of the power of the British Empire with the Egyptian leader Gamel Abdel Nasser seizing control of the Suez Canal in 1956. Earlier, in 1948, Britain had suffered a humiliation with the creation of the Jewish nation of Israel from a portion of Palestine which was then under British rule. Now, during this military engagement with Egypt, while Britain gained the support of France and Israel, the combined efforts of the USA and the then USSR, both of which had begun to yield tremendous economic and political influence regarding world affairs, compelled the British to withdraw not only from the Suez but from the entire Middle East, thereby effectively terminating its influence as a great colonial and imperial power.

5.10.2. Suez Crisis

The Suez Canal, 165 km long, joins the Mediterranean Sea with the Red Sea. It was designed and built by a Frenchman. The British gained control over its operation from 1875. After the British troops were withdrawn, the Egyptians took control in 1956 provoking an attack by a joint Anglo-French force. However, international opposition to their action forced them to withdraw. British accounts of this episode seek to justify their actions on the grounds of the extension of Russian communist influence over Egypt headed by Nasser. The actual Anglo-French campaign lasted barely a week but it brought to the fore vehement reactions from nations in the General Assembly of the United Nations.

Britain would come to play a relatively minor role during the subsequent and still functional neo-imperialism compared to the other rising and powerful economies such as the USA, USSR (now only Russia), Germany, Japan, and so on.

SAQ

Which factors would you regard as being of the highest importance in British loss of control over international affairs ? (50 words)

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5.10.3. Gandhi's *Hind Swaraj*

['What is swaraj ?'] "Editor: . . .To drive the English out of India is a thought heard from many mouths, but it does not seem that many have properly considered why it should be so. . . . Why do you want to drive away the English?

Reader: . . .We must own our navy, our army, and we must have our own splendour . . .

Editor: . . . You want the tiger's nature, but not the tiger; that is to say, you would make India English. . . ."

['The Condition of India'] "Reader: . . .all the disadvantages of railways are more than counterbalanced by the fact that it is due to them that we see in India the new spirit of nationalism.

Editor: . . .The English have taught us that we were not one nation before and that it will require centuries before we become one nation. This is without foundation. We were one nation before they came to India. One thought inspired us. Our mode of life was the same. It was because we were one nation that they were able to establish one kingdom. Subsequently they divided us.

. . . .I do not wish to suggest that because we were one nation we had no differences, but it is submitted that our leading men travelled throughout India either on foot or in bullock-carts. They learned one another's languages and there was no aloofness between them. . . ."

5.11. Summing Up

In this unit we tried to analyse the concept of empire and the related ideas of decolonisation and nationalism. From an overview of the consolidation of the British Empire to the decline of the British Empire towards the early twentieth century, we proceeded to discuss the interrelation of decolonisation and the crisis of empire in the third and finally

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analysed the connection between decolonisation and the spirit of nationalism. Finally we also commented on the representation of this crisis in the British Empire in literature of the time.

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Unit 6 : The Industrial Revolution

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Unit Structure:

6.1 Objectives

In this unit, I will attempt to give you a brief idea of the processes and consequences that accompany the concept Industrial Revolution in order to enable you to visualise the transformation in the larger economic, political, and technological arena in the 18th and 19th century and its impact till today. By the end of this unit you will be able to

- define Industrial Revolution.
- enumerate the different aspects of Industrial Revolution.
- connect the concept of Industrial Revolution to different aspects of society.
- outline the positive and negative effects of Industrial Revolution on literature and culture.

6.2 Introduction

The Industrial Revolution refers to a period of profound socioeconomic and technological changes that occurred in the late 18th and early 19th centuries, primarily in Great Britain, and later spread to other parts of the world. It marked a significant shift from an agrarian and handicraft-based economy to one characterized by industrial production, mechanization, and the emergence of factories.

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Before the Industrial Revolution, most goods were produced by manual labour and cottage industries, where individuals or families worked in their homes to create products. Agriculture was the predominant occupation, and the majority of the population lived in rural areas. However, with advancements in technology, the Industrial Revolution led to a series of transformative developments that reshaped society and the global economy.

6.3 Historical Context

The Industrial Revolution occurred during a specific historical context, shaped by various factors that influenced its emergence and development. Understanding the historical context helps us grasp the conditions that facilitated the Industrial Revolution. Here are some key elements of the historical context:

- Agricultural Revolution: Prior to the Industrial Revolution, the Agricultural Revolution took place in Britain and other parts of Europe during the 18th century. Innovations in agricultural practices, such as the enclosure movement and new farming techniques, led to increased agricultural productivity. This surplus of food and population growth provided a foundation for urbanization and a labour force for industrialization.
- Scientific and Technological Advances: The Enlightenment, a period of intellectual and philosophical enlightenment during the 17th and 18th centuries, fostered scientific inquiry, critical thinking, and innovation. Scientific discoveries in fields such as physics, chemistry, and biology laid the groundwork for technological advancements that would drive industrialization.
- Access to Natural Resources: Britain, the birthplace of the Industrial Revolution, had favourable access to various natural resources necessary for industrialization. It possessed abundant coal and iron ore reserves, which were essential for the development of steam power and the production of iron and steel.
- Political and Economic Factors: Britain's stable political system, protected property rights, and supportive legal framework provided a conducive environment for entrepreneurship and capital investment. Additionally, the British Empire's colonial expansion created a global network that facilitated access to raw materials, markets, and trade opportunities.

- Population Growth and Urbanization: The population of Europe, particularly Britain, experienced significant growth during the 18th and 19th centuries. This population growth, combined with the enclosure movement and improvements in agricultural productivity, led to a surplus labour force that migrated to urban areas. Urbanization provided a concentrated workforce for the emerging industries.
- Capital Accumulation and Banking System: The accumulation of capital through various means, including colonial trade, investments, and the profits of agricultural advancements, played a crucial role in financing industrial ventures. The development of a robust banking system, such as the establishment of the Bank of England in 1694, provided access to credit and facilitated investment in industrial projects.
- Social and Cultural Factors: The rise of individualism, the pursuit of economic interests, and the spirit of innovation and entrepreneurship were cultural factors that contributed to the Industrial Revolution. Enlightenment ideals, such as the belief in progress and human agency, fostered an environment that valued scientific inquiry, rationality, and technological advancements.

The Industrial Revolution did not occur in isolation but was influenced by a combination of these historical factors. The convergence of scientific, technological, economic, political, and social developments provided the foundation for the emergence and success of industrialization. Understanding this historical context helps us appreciate the complexities and dynamics that shaped the Industrial Revolution and its subsequent impact on the modern world.

Check Your Progress

Briefly mention some of the historical factors behind the Industrial Revolution. (100 words)

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6.4 Industrial Revolution in Britain

Early industrialization in Britain refers to the period when the Industrial Revolution began and gained momentum in the country. It marked the initial phase of industrialization, characterised by significant technological

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advancements, the emergence of factories, and the transformation of key industries. Here's an overview of early industrialization in Britain:

- Textile Industry: The textile industry was one of the first and most important industries to undergo mechanization. Innovations such as the spinning jenny (invented by James Hargreaves) and the water frame (developed by Richard Arkwright) mechanized the spinning process, significantly increasing productivity. Later, the power loom (developed by Edmund Cartwright) automated the weaving process. These advancements transformed the textile industry, leading to increased production, improved quality, and reduced costs.
- Iron and Coal Industries: The availability of abundant coal and iron ore reserves in Britain fuelled the growth of the iron and coal industries. The iron industry underwent a significant transformation with the adoption of new methods like coke smelting and the use of steam-powered blast furnaces. This led to increased iron production, which supplied materials for machinery, infrastructure, and railways.
- Steam Power and Machinery: The development of improved steam engines, notably James Watt's steam engine, was a crucial factor in driving early industrialisation. Steam engines provided a reliable and efficient source of power for factories, mines, and transportation. They were used to power machinery, pump water from mines, and drive locomotives, facilitating the expansion of industries and transport networks.
- Canals and Railways: The construction of canals and later the development of railways played a significant role in early industrialization. Canals provided a cost-effective means of transporting raw materials and finished goods, connecting industrial regions with ports and markets. The advent of railways in the early 19th century further revolutionized transportation, allowing for faster and more efficient movement of goods and people across the country.
- Factory System: The early industrialization phase saw the emergence of the factory system. Instead of cottage industries and small-scale production, factories became the centres of production. Concentrating machinery, workers, and production processes in a single location led to increased efficiency and higher output. Workers transitioned from working in their homes

to working in factories, often under challenging and exploitative conditions.

- Urbanization and Population Shift: The growth of industrialization led to rapid urbanization in Britain. People migrated from rural areas to industrial towns and cities in search of employment opportunities. This shift in population contributed to the expansion of urban areas and the rise of industrial communities, with profound social and demographic consequences.
- Capital and Entrepreneurship: The availability of capital and the entrepreneurial spirit were crucial factors in the early industrialization of Britain. Wealthy individuals, entrepreneurs, and industrialists invested in new technologies, machinery, and infrastructure projects. The establishment of banks and financial institutions provided access to capital, supporting the growth of industries and enterprises.

The Industrial Revolution had a profound impact on British society and economy, bringing about significant social changes, class divisions, economic growth, urbanisation, shifts in labour patterns, and working conditions. Here's an overview of these impacts:

Social Changes and Class Divisions

- Emergence of the Working Class: The Industrial Revolution led to the rise of a new working class. Workers moved from rural areas to urban centers to find employment in factories. They often faced harsh working conditions, long hours, low wages, and limited access to education and healthcare. This gave rise to social and labour movements advocating for workers' rights and improved living conditions.
- Class Divisions: The industrialization process created stark class divisions in British society. The wealthy industrialists and capitalists, who owned the means of production, formed the upper class. The working class, comprising factory workers and laborers, formed the lower class. The gap between these classes widened, leading to social inequalities and tensions.
- Social Mobility: Industrialization also created opportunities for social mobility. Some workers were able to improve their living conditions and social standing through education, entrepreneurship, or upward mobility within industries. However,

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social mobility was limited, and many workers remained trapped in low-paying jobs with little upward mobility.

Economic Growth and Urbanisation:

- Economic Transformation: The Industrial Revolution brought about significant economic growth and transformed Britain into a leading industrial and economic power. Industries such as textiles, iron and steel, coal mining, and machinery manufacturing flourished. This growth stimulated trade, increased production, and expanded domestic and international markets.
- Urbanization: Industrialization led to rapid urbanization as people migrated from rural areas to industrial towns and cities in search of employment. Urban areas expanded rapidly to accommodate the growing population and the needs of industries. This urbanization brought both opportunities and challenges, including overcrowding, poor living conditions, inadequate infrastructure, and social problems.

SAQ

Discuss the various developments during the early period of industrialisation in Britain. (150 words)

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What are the social consequences of the Industrial Revolution? (in 150 worlds)

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6.4.1 Industrial Revolution in Europe

The Industrial Revolution, which originated in Britain, gradually spread to other parts of Europe, bringing about significant industrialization and transformative changes. Here's an overview of the spread of industrialization and the Industrial Revolution in Europe:

- Western Europe: a. France: Industrialization in France began in the late 18th century and gained momentum in the 19th century. Textiles, iron and steel, and coal mining were among

the leading industries. The development of railroads and the expansion of the transportation network played a crucial role in connecting industrial regions.

- b. Germany: Germany's industrialization took off in the 19th century, with a focus on heavy industry. The iron and coal industries, along with machinery manufacturing, became key sectors. Germany's centralized and organized approach to industrialization, known as the "German model," contributed to its rapid economic growth.
- Belgium: Belgium experienced industrialization in the early 19th century, particularly in textiles, coal mining, and iron and steel production. The country became one of the leading industrial powers in Europe, aided by its rich coal reserves and well-developed transportation infrastructure, including canals and railways.
- Central and Eastern Europe: a. Russia: Industrialization in Russia occurred later than in Western Europe, starting in the mid-19th century. The government played a significant role in promoting industrial growth, particularly in heavy industries such as iron, coal, and steel. The expansion of the railway network facilitated industrial development and connected resource-rich regions.
- Southern Europe: a. Italy: Industrialization in Italy occurred primarily in the late 19th and early 20th centuries. The country experienced regional variations, with the north, particularly Piedmont, Lombardy, and Liguria, leading industrial growth. Textiles, iron and steel, machinery, and shipbuilding were prominent industries.

6.4.2 Industrialization in the United States

Industrialization in the United States refers to the period when the country underwent rapid economic and technological growth, transforming from an agrarian society to an industrial powerhouse. Here's an overview of industrialization in the United States:

A. Early Industrialization

- Textile Industry: The textile industry was one of the earliest sectors to undergo industrialization in the United States. The growth

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of cotton production in the Southern states, coupled with the development of mechanized spinning and weaving machinery, led to the establishment of textile mills in New England.

- Transportation Revolution: The construction of canals, such as the Erie Canal, and the expansion of the railway network greatly improved transportation infrastructure. This facilitated the movement of goods and raw materials, connecting different regions and stimulating economic growth.

B. Westward Expansion and Natural Resources

- Westward Expansion: The acquisition of new territories and the settlement of the American West played a crucial role in industrialization. It provided access to abundant natural resources, including timber, coal, iron ore, and oil, which fuelled industrial development.

- Mining and Extraction: The discovery of valuable minerals, such as gold in California and silver in Nevada, spurred mining activities and the development of mining towns. The extraction of natural resources became an important industry supporting industrial growth.

C. Industrial Expansion

- Iron and Steel Industry: The United States became a major producer of iron and steel during the 19th century. Technological advancements, such as the Bessemer process and the open-hearth process, revolutionized steel production, leading to the construction of railways, bridges, and industrial infrastructure.

- Machinery and Manufacturing: The development of machinery and manufacturing played a crucial role in industrialization. Innovations like interchangeable parts, pioneered by Eli Whitney, and the assembly line, popularized by Henry Ford, increased efficiency, productivity, and the mass production of goods.

- Petroleum Industry: The United States emerged as a significant player in the petroleum industry. The discovery of oil in Pennsylvania and later in Texas led to the establishment of oil refineries and the development of the modern oil industry. Oil became a vital resource for various industries, transportation, and energy production.

D. Technological Advancements

- Electrical Power: The harnessing of electricity and the development of electrical power systems, notably by Thomas Edison and Nikola Tesla, transformed industries and urban life. Electricity powered factories, lighting, and communication systems, enabling further industrialization.
- Communication and Transportation: The invention of the telegraph and later the telephone revolutionized communication, enabling faster and more efficient transmission of information. The expansion of railways and the introduction of steam-powered locomotives improved transportation and connected the vast expanse of the country.

E. Impact on Society and Labour

- Urbanization: Industrialization led to significant urbanization as people moved from rural areas to industrial cities in search of employment. Cities like New York, Chicago, and Pittsburgh experienced rapid growth, leading to the emergence of urban centers.
- Labor Movements: The working conditions during the early stages of industrialization were often harsh, with long hours, low wages, and dangerous environments. This sparked labor movements and the formation of labor unions, advocating for better wages, working conditions, and workers' rights.
- Immigration and Cultural Diversity: Industrialization in the United States attracted a massive influx of immigrants seeking job opportunities. This contributed to the cultural diversity of the nation and played a vital role in shaping its identity.

Industrialization in the United States transformed the country into a global economic power, stimulating technological advancements, economic growth, and societal changes. It laid the foundation for the modern industrial and technological society that the United States is known for today.

6.5 Industrial Revolution and the British Empire

Colonialism had a significant impact on industrialization in various regions, both positive and negative. Colonial powers often practiced exploitative economic policies, extracting resources and wealth from colonies while limiting their industrial development. They undermined or destroyed local industries to establish a dependency on goods produced in

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the colonizer's country. Colonial powers invested in infrastructure development, including transportation networks, such as railways and ports, which facilitated the movement of goods and resources, supporting industrialization.Colonial powers often exploited local labor, often through forced labor or low wages, to support their own industrial needs. However, Colonial powers introduced new technologies, machinery, and knowledge to their colonies, which laid the groundwork for industrial development.Colonies often provided valuable resources, such as minerals, agricultural products, and raw materials, which were exploited by colonial powers to support their own industrialization.It is important to note that the impact of colonialism on industrialization varied among different colonies and colonial powers. Some regions experienced significant industrial development as a result of colonial influence, while others faced economic exploitation and hindrances to their own industrialization efforts.

SAQ

How do you understand the link between the Industrial Revolution and colonialism? (60 words)

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6.6 Technological Advancements and Innovations

During the Industrial Revolution, numerous technological advancements and innovations played a crucial role in driving industrialization and transforming various industries. Here are some key technological advancements of the Industrial Revolution:

- Steam Engine: The steam engine, developed by James Watt and others, was a pivotal invention that powered the Industrial Revolution. It provided a reliable and efficient source of power for machinery, revolutionizing transportation, manufacturing, and agriculture. Steam engines were used in locomotives, steamships, textile mills, and mining operations.
- Textile Machinery: The textile industry saw significant advancements in machinery. The spinning jenny, developed by James Hargreaves, allowed multiple spindles to spin yarn simultaneously, increasing productivity. Richard Arkwright's water frame and Samuel Crompton's spinning mule further improved spinning efficiency. The power loom, developed by

Edmund Cartwright, mechanized the weaving process, leading to increased textile production.

- Iron and Steel Production: The development of iron and steel production techniques revolutionized construction, transportation, and machinery manufacturing. The Bessemer process, invented by Henry Bessemer and William Kelly, enabled the mass production of steel by removing impurities from iron. This led to the construction of stronger buildings, bridges, and railways.
- Railways: The advent of railways had a profound impact on transportation and trade. The development of steam-powered locomotives, coupled with the expansion of railway networks, allowed for faster, more efficient transportation of goods and people. Railways facilitated the growth of industries by providing access to raw materials and opening up new markets.
- Telegraph: The telegraph, invented by Samuel Morse, revolutionized long-distance communication. It allowed for the rapid transmission of messages over long distances using Morse code. The telegraph connected distant locations, improved business communication, and facilitated the coordination of industrial activities.
- milling machines, and planers, revolutionized manufacturing processes. These tools allowed for the precise shaping and machining of metal parts, enabling the mass production of standardized components and facilitating the growth of machinery manufacturing.
- Agricultural Innovations: Agricultural advancements played a crucial role in increasing food production and supporting the growing population. The seed drill, invented by Jethro Tull, improved the efficiency of planting seeds, while the threshing machine mechanized the separation of grain from the stalks. The enclosure movement also led to agricultural improvements and increased productivity.
- Electrical Power and Lighting: The harnessing of electricity revolutionized industry and daily life. Innovators like Thomas Edison and Nikola Tesla made significant contributions to electrical power generation and distribution. Electric power enabled the development of electric lighting, motors, and other electrical appliances, transforming industry, transportation, and urban life.

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These technological advancements and innovations during the Industrial Revolution were instrumental in increasing productivity, improving efficiency, and transforming various industries. They laid the foundation for the modern technological advancements that continue to shape our world today.

6.7 Cultural and Intellectual Changes

The Industrial Revolution not only transformed the economic and technological landscapes but also brought about significant cultural and intellectual changes. Here are some key cultural and intellectual changes that occurred during the Industrial Revolution:

- Urban Culture and Lifestyle: The rapid urbanization resulting from industrialization led to the development of a distinct urban culture. Cities became centres of innovation, trade, and cultural exchange. New forms of entertainment, such as theatres, music halls, and exhibitions, emerged to cater to the growing urban population. The urban lifestyle brought new social dynamics, diverse communities, and the mixing of different social classes.
- Rise of Consumer Culture: The Industrial Revolution fuelled the growth of consumer culture. The increased production of goods, coupled with rising incomes and expanding markets, created a culture of mass consumption. People began to define themselves through their consumption patterns, and new advertising techniques emerged to promote goods and create desires.
- Romanticism and Reaction to Industrialisation: The Romantic movement emerged as a response to the changes brought about by industrialization. Romanticism emphasized individual expression, emotional experiences, and a connection to nature and the past. Artists, writers, and thinkers sought to critique the dehumanizing aspects of industrialization and celebrated imagination, beauty, and the sublime.
- Intellectual and Scientific Advancements: The Industrial Revolution witnessed significant intellectual and scientific advancements. The Enlightenment ideals of reason and progress continued to influence intellectual discourse. Scientific discoveries and technological innovations, such as steam power and electricity, spurred further scientific inquiry and technological development.

- Social and Political Movements: The social changes brought about by industrialization also gave rise to various social and political movements. Workers' rights movements, labour unions, and socialist and communist ideologies emerged as a response to the harsh working conditions and socio-economic inequalities. Women's rights movements gained momentum, advocating for gender equality and suffrage rights.
- Education and Literacy: As industrialization progressed, access to education expanded. The growth of factories and the need for a skilled workforce led to the establishment of schools and the promotion of literacy. The spread of education facilitated the dissemination of knowledge, empowered individuals, and fueled further intellectual and cultural advancements.

- Impact on Literature and Art: The Industrial Revolution had a profound impact on literature and art. Works of literature and art reflected the social and economic changes brought about by industrialization. Realism emerged as a literary and artistic movement, depicting the realities of industrial life and social inequalities. Artists and writers, such as Charles Dickens and Émile Zola, exposed the hardships faced by the working class and critiqued the negative consequences of industrialization.

The cultural and intellectual changes of the Industrial Revolution reflected both the positive and negative aspects of the transformative period. While it brought about innovation, progress, and new forms of cultural expression, it also raised concerns about the impact of industrialization on society, the environment, and human well-being. These cultural and intellectual changes continue to shape our understanding of the Industrial Revolution and its consequences.

6.8 Industrial Revolution and Its Influence on Literature

The literature of the Industrial Revolution era serves as a valuable lens through which we can examine the profound social changes brought about by industrialization, urbanization, and the accompanying social inequalities. These literary texts provide diverse perspectives and critical analyses of the effects of these transformative processes on individuals and communities. This essay will explore notable literary works from the Industrial Revolution period and delve into their portrayal of the evolving social landscape,

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highlighting themes such as dehumanization, urban poverty, class conflicts, and the yearning for social justice.

One significant aspect of the literature of the Industrial Revolution is the emergence of Romanticism as a response to the mechanization and dehumanization brought about by industrialization. Romantic writers, such as William Wordsworth and Samuel Taylor Coleridge, sought solace and inspiration in nature, emphasizing the importance of individual emotions and spirituality. By reconnecting with nature, Romantic literature aimed to counterbalance the alienating effects of industrialization and express a longing for a more harmonious existence. Wordsworth's "Lines Composed a Few Miles Above Tintern Abbey" and Coleridge's "The Rime of the Ancient Mariner" exemplify these Romantic ideals, emphasizing the restorative power of nature and the need for spiritual connection amidst the industrial chaos.

A central theme that emerges from literary works of the era is a social critique of the negative consequences of industrialization. Writers like Charles Dickens and Elizabeth Gaskell skilfully depicted the harsh realities faced by the working class. For instance, Dickens' novel *Hard Times* exposed the dehumanizing effects of utilitarianism and the mechanization of society. Gaskell's *Mary Barton*shed light on the plight of working-class families, exploring issues such as unemployment, poverty, and inadequate living conditions. These literary critiques served as powerful instruments to raise awareness about social injustices and advocate for societal change. Through their narratives, Dickens and Gaskell humanized the suffering masses, urging readers to question the morality of an industrialized society.

The Industrial Revolution brought about significant urbanization, resulting in the portrayal of urban life in literature. Dickens, in works like *Oliver Twist* and*Bleak House*, vividly depicted the crowded and oppressive environments of working-class neighbourhoods and raised issues of child labour induced by Industrial revolution. Through detailed descriptions, these authors captured the challenges faced by individuals in urban settings, revealing the impact of rapid industrialization on living conditions, social relationships, and the sense of community. The literary representation of urban life served to expose the darker side of progress and shed light on the complexities of urban existence. Dickens' characters, such as Oliver Twist and Little Dorrit, navigate the perils of the city, highlighting the stark contrasts between the wealthy and the impoverished, and the struggles faced by the urban poor.

Another significant aspect of the literature of the Industrial Revolution was the depiction of the loss of craftsmanship and artistry. As machinery replaced traditional manual labour, the romanticized image of the skilled artisan and the value of handcrafted goods faced a decline. Some literary works conveyed a sense of nostalgia for a pre-industrial world, mourning the loss of craftsmanship and the degradation of artistry. This sentiment can be observed in the poetry of William Blake, who critiqued the dehumanizing effects of industrialization and longed for a return to a more spiritually connected existence. Blake's collection, "Songs of Innocence and of Experience," juxtaposed the purity of nature with the corruption of industrial society, emphasizing the need to rekindle the creative and imaginative spirit.

In addition to the themes explored, the Industrial Revolution influenced the literary imagery and symbolism used during the era. Industrial machinery, factories, and urban landscapes became recurring motifs, often representing dehumanization, alienation, and the destructive aspects of progress. Moreover, the changing social dynamics and class conflicts found their way into the narratives, reflecting the tensions and injustices of industrial society. The rise of realism and naturalism in literature, exemplified by Émile Zola's works, provided objective and detailed portrayals of society, delving into the grim realities of poverty, labour conditions, and social determinism. Zola's novel *Germinal* captures the struggles of coal miners and their collective uprising, exposing the harsh working conditions and the profound class divide of the time.

These shifts in artistic and literary expressions during the Industrial Revolution reflected the complexities and contradictions of the era. They captured the social and cultural changes, highlighted social injustices, and sparked discussions about the impact of industrialization on society. The artistic and literary works of the time continue to provide insights into the human experience during this transformative period.

Stop to Consider

Do you think that understanding of Industrial Revolution can sensitize you to think more engagingly on the literature of the romantic and Victorian period? I have cited a few examples. However, a close study of the romantic poetry (from Blake onwards) reveals how the poets were engaged with a human reality and ideas which were directly or indirectly liked to a society and culture profoundly transformed by the Industrial Revolution.

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6.9 Enlightenment and its influence on the Industrial Revolution

The Enlightenment, an intellectual and philosophical movement that emerged in the 18th century, had a profound influence on the Industrial Revolution. The ideas and values of the Enlightenment played a significant role in shaping the social, political, and intellectual climate that ultimately led to the rise of industrialization. Here are some key ways in which the Enlightenment influenced the Industrial Revolution:

- Rationality and Reason: The Enlightenment placed a strong emphasis on rationality and reason as the foundation for understanding and improving the world. This emphasis on reason and scientific inquiry laid the groundwork for the technological and scientific advancements that drove industrialization. Enlightenment thinkers sought to apply reason to all aspects of human life, including economics, politics, and technology, fostering an environment conducive to innovation and progress.
- Empiricism and Experimentation: Enlightenment thinkers promoted empiricism and the importance of observation and experimentation. This shift towards empirical methods and scientific inquiry helped fuel the spirit of experimentation that characterized the Industrial Revolution. The scientific advancements of the time, such as discoveries in physics, chemistry, and biology, provided the knowledge and understanding necessary for technological innovations.
- Technological Optimism: The Enlightenment fostered a sense of technological optimism and belief in human progress. Thinkers like Francis Bacon and René Descartes viewed technology and scientific knowledge as tools for improving human lives and advancing society. This mindset of progress and improvement contributed to the pursuit of technological advancements during the Industrial Revolution.
- Individualism and Human Agency: The Enlightenment championed the ideals of individualism, personal freedom, and human agency. The focus on individual rights and liberty helped create a favourable environment for entrepreneurship, innovation, and the pursuit of economic interests. These ideals provided the foundation for the rise of capitalism and the entrepreneurial spirit that fuelled industrialization.

- Social and Political Ideas: Enlightenment thinkers introduced new social and political ideas that challenged traditional hierarchies and promoted individual freedoms. Concepts such as equality, liberty, and the social contract influenced political movements and shaped the social and economic structures of the time. These ideas helped lay the groundwork for the social changes and labour movements that accompanied the Industrial Revolution.
- Spread of Knowledge and Education: The Enlightenment placed great importance on the dissemination of knowledge and education. The spread of literacy and the availability of books, pamphlets, and journals made knowledge more accessible to a broader audience. This increase in education and access to information created a more informed society and contributed to the growth of skilled labour needed for industrialization.

While the Enlightenment did not directly cause the Industrial Revolution, its ideas and values created an intellectual and cultural climate that was conducive to the rise of industrialization. The emphasis on reason, experimentation, individualism, and progress laid the foundation for the technological advancements, social changes, and economic transformations that characterized the Industrial Revolution.

Check your Progress

Write a brief note on the intellectual roots on the Industrial Revolution, especially its connections with the ideas of the Enlightenment.

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6.10 Negative Effects of Industrial Revolution

Some of the harmful impacts of Industrial Revolution are:

- Environmental degradation: The Industrial Revolution had a significant environmental impact, leading to issues such as pollution, deforestation, climate change, and loss of biodiversity. The legacy of environmental degradation left by the Industrial Revolution has raised awareness about the importance of sustainable development and environmental stewardship. It has prompted efforts to mitigate the negative environmental consequences of industrial activities and seek more sustainable approaches to economic growth.

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- Child Labour: The exploitation of children as manual labourers with the development of factories and mills can be considered as one of the worst effects of Industrial Revolution. Even though children were employed prior to Industrial Revolution, but the sudden increase in demand caused by these reasons, orphans and poor children were taken from London's poorhouses and kept in mill dormitories where they were forced to labour long hours and were denied an education. Children who were forced to perform hazardous adult professions frequently met horrific ends. Child labour was prevalent, with children as young as six or seven working in factories. These conditions sparked social reform movements and labour activism to improve workers' rights and working conditions.
- Poor Working Conditions and Labour Exploitation: The early stages of industrialization were marked by harsh working conditions, including long work hours, low wages, dangerous and unsanitary workplaces, and limited labour protections. Workers, including women and children, often faced exploitation, with little bargaining power or rights. This led to the rise of labour movements and the fight for workers' rights and improved working conditions. Notable works like Peter N. Stearns *The Industrial Revolution in World History* (2013) and Peter Capuano's *Changing Hands: Industry, Evolution and the Reconfiguration of the Victorian Body* (2015) provide a vivid understanding of the dangerous working conditions and stressful lifestyle of the time.
- Social Class Divisions: Industrialization widened social class divisions. The emergence of industrial capitalists and the accumulation of wealth by a few individuals led to stark inequalities between the rich industrial elites and the working class. Class divisions resulted in social tensions, conflicts, and the formation of labour movements advocating for more equitable distribution of wealth and social justice.

Despite the challenges and negative aspects, the Industrial Revolution also brought about improvements in living standards, increased access to goods and services, technological advancements, and the foundation for modern industrial societies. Over time, workers' rights improved, and labour movements fought for better working conditions, leading to the stablishment of labour laws and social reforms.

Check your Progress

Discuss how the Industrial Revolution adversely affected the society? Can you think of any literary text in the nineteenth century that depicts the social consequences of the Revolution? Elaborate. (200 words)

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Write a brief summary of the Industrial Revolution's key aspects and impacts? (150 words)

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6.11 Summing Up

The evaluation of the Industrial Revolution is complex and multifaceted, with both positive and negative aspects.It marked a transformative period in human history, bringing about unprecedented economic growth, technological advancements, and societal changes. However, it also had significant social, environmental, and ethical implications that continue to shape our understanding of industrialization and guide efforts towards sustainable development.Industrialization brought about profound social changes and posed numerous challenges that societies had to address. Over time, these challenges led to social and political reforms, the establishment of labour laws, the expansion of social welfare systems, and the recognition of workers' rights, contributing to improved social conditions and the development of modern social systems.This unit has tried to provide a wider understanding of Industrial revolution and its impact on the economic, social, political and cultural fabric of life.

6.12 References and Suggested Readings

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Unit 7 : The Working Classes

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Unit Structure:

7.1 Objectives

This unit aims to familiarize the learner with the contexts of the modern period. The modern period is almost unthinkable without the two great manifestations of capitalist progress: the widening divisions between richer nations and poorer nations through colonialism, and the formation of the working class of industrialized society. We saw the first of these in our earlier unit (3). Here we come to some of the consequences of industrialization. While some of the matter presented here tends to be sociological—and not 'literary', the learner must keep in mind that the connections between 'text' and 'context' cannot be made without first getting at the very basis of literary work which is society itself. Almost every detail of industrialization that we bring here can be seen as having shaped literature in a fundamental way. By the end of the unit you should be

- *familiar* with the historical origins
- *able to understand* the concept of class
- *able to trace* the nature of nineteenth-century society
- *able to place* the working class in a historical perspective

7.2 Introduction

This unit introduces the learner to a very important part of English social history—the history of the proletariat. We should only think how capitalism developed in the West and how that was also the process by which the lower sections of society became the 'working class'. We begin with the Industrial Revolution because that was one historical transition which accelerated the rate of capitalist development. By itself this means

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that in this unit we cover the period from the end of the eighteenth century to the beginning of the twentieth. In literary history this means that we start from the early Romantic period and stop with the modern. The greater part of this unit moves to show the process by which the class is created and what are the attributes of industrialization. Again, you should try to use the material primarily as a pointer to wider reading on the subject.

7.3 Defining the Term

As we try to highlight the labouring classes of English society, we must also keep in mind that firstly, the processes of class-formation are dynamic and never static. Secondly, here we are dealing with the idea of 'labour', and that brings us very close to the related terms of 'artisan', 'craftsman', 'peasant', 'shoemaker', 'weaver'—in short, all those social categories which were involved in providing goods and services to society. The words "manufacturer", "journeyman", and "tradesman", for instance, all meant differently in older times. If all of this means to stop us from arriving at a reliable definition, we surely need to look at more history to help us move onwards! Perhaps, then, we can start with 'Chartism' to help us.

Chartism was a British working-class movement which began somewhere in 1838. The movement aimed at parliamentary reform. 'Chartism' is named after the 'People's Charter', which had been drafted by William Lovett and it contained six demands: universal manhood suffrage, equal electoral districts, vote by ballot, annually elected Parliaments, payment of members of Parliament, and abolition of the property qualifications for membership. This was an unusual movement in that it was both working-class in character and national in scope. Also, it grew out of protest against the social injustices of the new industrial order in Britain. Chartism, as a movement, lasted at least a decade till 1848, while its ideas continued to find support even later. All six original demands were subsequently realized.

SAQ

How do we differentiate between the names of people who worked to produce things and the 'workers' clearly ? (20 words)

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What is the difference between 'worker' and 'craftsman' or 'artisan'? (30 words)

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The brief description above brings us to some notable qualities of contemporary English society; the Chartist movement aimed at parliamentary reform and it militated against the injustices of an industrialized society. Let us look at the description more closely: who were the members of this movement? We return here to our initial problem of defining the term.

The historian, Eric Hobsbawm, provides us with at least one certain fact which is that the working class was indeed a historically new class. This means that it can be traced as a social group which emerged during a specific period of time. To some extent it is agreed that the working class in British society emerged in the early nineteenth century and underwent some changes in its formation due to the changing conditions from the period 1790-1830 and then after the 'railway boom' of 1843. But it also needs to be remembered that this class actually becomes a recognizable 'class' later in the century.

Stop to Consider:

How do we understand 'class'?

The concept is of crucial importance in Marxist theory. Marx used the concept as the basis of his theory. Together with Engels, Marx saw 'class' as a distinctive feature of capitalist societies. Capitalist society consists of two principal classes: the bourgeoisie and the proletariat. Describing the emergence of the working class, Marx wrote: "Economic conditions had in the first place transformed the mass of the people into workers. The domination of capital created the common situation and common interests of this class."

It is in this connection that Chartism is an important landmark by which to understand this class. By the time this event took place, words like 'artisan', 'journeyman', 'craftsman' which, in the ancient world had meant small producers who worked independently and who had their own small organizations, had begun to mean people who sold their skills for wages. The term, "manufacturer" is used vaguely to mean the labour force in the ancient world. Now, in the early nineteenth century, it meant strictly the industrial employer. The older type of the artisan who both made and sold had disappeared. Perhaps it will be helpful to cast a backward glance at this point in our narrative to the time of great transition which began in England.

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7.4 Industrial Revolution & Its Aftermath

The name "Industrial Revolution" is given to the process of change, which began in England in the 18th century, from an agrarian economy with handicraft as its mainstay, to an economy dominated by industry and machine manufacture. From England it spread to other parts of the world.

This great transition is to be seen primarily in the technological changes which brought in the use of new basic materials, chiefly iron and steel. New energy sources, including both fuels and motive power, such as coal, the steam engine, electricity, petroleum, and the internal-combustion engine were used to run machines newly invented. The transformation in the methods of production meant the use of less human labour to produce more as was to be seen in such inventions as the spinning jenny and the power loom. Naturally, this implied a new organization of work known as the factory system. The re-organization entailed increased division of labour and specialization of function. Part of the larger 'revolution' included important developments in transportation and communication. Industrial revolution meant a significant change from the older times because it consisted in the increasing application of science to industry. A dramatic change derived from these technological applications was the possibility of a tremendously increased use of natural resources and the mass production of manufactured goods.

SAQ

1. If the changes in methods and objects of production constituted the 'industrial revolution', how is the factory-system connected with it ? (50 words)

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There were bound to have been repercussions of these material changes in other spheres of life. At the level of material necessities, agricultural improvements made possible the provision of food for a larger non-agricultural population. The sum total of economic changes necessarily resulted in a wider distribution of wealth. Rising industrial production led to the decline of land as a source of wealth. It also meant greater international trade. Socially, new economic gainers effected political changes as policies of state had to correspond to the needs of an industrialized society. One of the most visible and profound changes was the growth of cities. Our list

of changes must include the development of working-class movements as new relations tied the worker to his task.. New skills were now required and the character of the worker had to undergo change with the emergence of new patterns of authority.

To look at these deeper changes closely we must focus on what happens to the worker, the person who is affected most profoundly by the process of 'industrialization'. The worker is reduced to being a 'mere' source of motive power when hand-operated tools are made into instruments of a machine. As production expands, human strength is unable to meet demands of energy. Thus, mechanical motive power is substituted for human muscles.

Check Your Progress

1. What is the period being surveyed here ?
(Hint: There is more than one set of dates to look at !)
2. What were the differences between the new working-class and the old producers of goods?
(Hint: Earlier, 'artisans' were not the same as the new 'worker'.)
3. What were the distinctive features of the 'Industrial Revolution'?
(Hint: Be comprehensive in your description.)
4. Describe 'industrial society' differentiating it from earlier agricultural society.
(Hint: A significant change—land was no longer the standard of wealth.)

The 'classic' account of the history of English labour, E.P.Thompson's *The Making of the English Working Class*, describes some experiences of workers during the Industrial Revolution. An equation was perceived by most contemporary observers between the cotton-mill and the new industrial society. Between 1790 and 1850, new modes of production also implied new social relationships. The mills brought into existence both the 'new' mill-owner and the 'new' working population.

As Thompson reminds us, the image of the "dark, Satanic mill" conjures up feelings regarding the Industrial Revolution. Let us take his description: "it is a dramatic visual image - the barrack-like buildings, the great mill chimneys, the factory children, the clogs and shawls, the dwellings clustering around the mills as if spawned by them." The description, definitely, tells us of what the workers' existence must have been like. The cotton-mill and the new mill-town not only grew swiftly but it also employed ingenious techniques of manufacture and imposed a harsh, new discipline on its labour.

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SAQ

1. What was the "harsh discipline" imposed by the factory - system on workers? (40 words)

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3. Who did the work of production in ancient times? (50 words)

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Whether the term, "Industrial Revolution", which was popularized by the historian Arnold Toynbee, can really be applied to the economic transformation of late 18th- and early 19th-century Britain has been a point of controversy among scholars. They have pointed out that in terms of employment the industrial sector may not have overtaken the agricultural sector until the 1850s. They have also shown that the average unit of production employed only 10 people and the large, anonymous factories did not become common until the late 19th century.

Despite the debate we see above, the clearest evidence to be taken is of Britain's ability to sustain an unprecedented, dramatic growth in its population from 1780 onward without suffering from major famines or acute unemployment. The population rose from 10.5 million in 1801 to 18.1 millions in 1841, which is a remarkable fact of the period.

Industrialization is bound to affect everything in society. Agriculture is also transformed by 'modern industry'. The change is due to machines and industrially produced chemicals being introduced, and other 'modern' techniques. Peasants are removed from the land as greater amounts of finance are infused into agriculture due to competition. Many agricultural labourers are displaced by the new machinery and impoverished.

In turn, this leads to the accelerated transfer of population to the cities. Town and country thus become further separated. The rural way of life is completely superseded by the modern industrialization. Productivity is increased such that a large portion of the rural labour force is rendered as a surplus. With industrialization, even where agriculture remains as an important part of the industrial economy, there is a simultaneous drop in the proportion of the labour force engaged in agriculture. This is one of the most obvious and clearest effects of industrialization, known as "sectoral transformation". A greater proportion of the work force turns to the

production of manufactured goods and services, rather than agriculture. Industrialization allows the surplus production of food which can feed a primarily urban population.

We must also note another major change in the English countryside which led to the uprooting of many villagers. This was the process known as "enclosure" by which arable lands belonging to the village community in common were parceled into farm plots for individual owners. In the earlier system of rural community life, most farmlands were in the form of strips under the control of individual cultivators during the growing season until harvesting, for a year. After the harvesting, and until the next growing season, the land was open to use by the community for grazing their livestock and any other usage. By putting a hedge or fence around it, the land was enclosed thus preventing common grazing and other rights to it. Enclosure began in the 12th century and the process continued till its completion in the 19th century.

By Thompson's account, it is in the period of the 'Industrial Revolution' - about 1790 to 1830 - that the 'working class' began to take shape. His account lists harsh changes: more intensive forms of economic exploitation, the loss of common rights over village land due to enclosures, and the small masters in domestic industries giving way to bigger employers. In agriculture, the exploitation was intensive; in the factories, it was more transparent. His description is unmatched:

"In the mills and in many mining areas these are the years of the employment of children (and of women underground); and the large-scale enterprise, the factory-system with its new discipline, the mill communities - where the manufacturer not only made riches out of the labour of the 'hands' but could be seen to make riches in one generation - all contributed to the transparency of the process of exploitation and to the social and cultural cohesion of the exploited." [*The Making of the English Working Class*, p.216]

These changes in the character of capitalist exploitation were "the rise of a master-class without traditional authority or obligations; the growing distance between master and man; . . . the loss of status and above all of independence for the worker, . . . the disruption of the traditional family economy; the discipline, monotony, hours and conditions of work; loss of leisure and amenities; the reduction of the man to the status of an 'instrument.".[p.221-222] It is also necessary, therefore, to keep in view the turbulence that marked the blaze of English history in the early decades of the century: popular agitations in the period 1811-50 consisted

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of the Luddite crisis from 1811-13, the Pentridge Rising in 1817, Peterloo ('Peterloo Massacre') in 1819, propaganda by the influential radical reformer, Robert Owen, the increasing trade union activity in the next decade, the Ten Hours Movement, the crisis of 1831-32, and then Chartism which became the net result of all such unrest.

All of the above points to the continuing social processes which make social categories. Friedrich Engels wrote in his *Condition of the Working Class in England in 1844*, "the first proletarians were connected with manufacture, were engendered by it . . . . .the factory hands, eldest children of the industrial revolution, have from the beginning to the present day formed the nucleus of the Labour Movement". Robert Owen, in 1815, remarked that "the general diffusion of manufactures throughout a country generates a new character in its inhabitants . . . an essential change in the general character of the mass of the people". As we trace the history of the English working class, we also look at the new ways in which work gets organized.

SAQ

1. What are the sociological factors that lead to the emergence of the working class? (80 words)

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2. What were the main features of an 'industrial revolution'? (30 words)

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7.5 The Organization of Work

In the 1830s and 1840s the 'factory system' was still regarded as a novelty. The factory system should be seen as having helped to form the manufacturing population. In 1833, Peter Gaskell, author of *The Manufacturing Population of England* (1833), pointed out how the factory system had "drawn together the population into dense masses". More specifically, the heart of the system was in the power of steam which brought together the workers: it was "only since the introduction of steam as a power that they have acquired their paramount importance". Yet

another contemporary observer, W.Cooke Taylor, noted his observations in *Notes of a Tour in the Manufacturing Districts of Lancashire* (1842), "The population, like the system to which it belongs, is NEW; but it is hourly increasing in breadth and strength. It is an aggregate of masses, our conceptions of which clothe themselves in terms that express something portentous and fearful . . . There are mighty energies slumbering in these masses. . . . The manufacturing population is not new in its formation alone: it is new in its habits of thought and action, which have been formed by the circumstances of its condition, with little instruction, and less guidance, from external sources . . . ". Historical observers point out that the new working class was linked to steam power and the cotton-mill. The material instruments of production were changing the very existence of the workers who used them and creating new social relationships, cultural norms and institutions.

However, while we note all of the above, we should not be led into thinking that the cotton-mill symbolizes all that happened at this time. The Industrial Revolution had been partly led by the changes in the cotton-mills. The factory-system is definitely based on the cotton-mill as a model. But statistically, in the 1830s, the cotton handloom weavers were still many more in number than the mill-workers. We must also consider that the Luddite movement was the work of "skilled men in small workshops". Despite the importance that Engels gives to the "factory hands", English observers note that factory workers were mostly those who were attached to the cotton districts before the late 1840s.

Stop to Consider:

The 'Luddites' were members of the 19th-century movement led by bands of English craftsmen who protested against the mechanization of factories which threatened to displace them. The Luddite movement caused much destruction of machinery by rioting. The protests began in 1811 near Nottingham and spread to Yorkshire, Lancashire, Derbyshire, and Leicestershire by the following year. The movement was vigorously suppressed as witness the mass trial at York in 1813 which resulted in hangings and transportations of protesters. It is said that 12,000 troops were deployed against the Luddites.

Machine-breaking has been part of the history of labour in England. It was observed to have taken place in a serious way in the seventeenth century and to continue right up to 1830. The wrecking of machines was a technique of protest used by trade unions in the period before the

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industrial revolution and during its early phases. The wrecking of machines was used as an important weapon in the famous riots of 1778 when a movement was organized to protest wage-reductions.

The later part of the nineteenth century in England is to be seen in terms of the new forms of life: the spread of industry and urbanization. In a sense, the city symbolized the industrial world. After 1850, there was rapid urbanization, at first in Britain and later also in other European countries. (By one estimate, there were ten cities of over 100,000 inhabitants in 1851 while in 1911; the number had risen to thirty-six. This meant that the city-inhabitants in the mid-nineteenth century were only 25% of the population while the 1911 figure meant 44% of the population.) This, by itself, meant new forms of community life. Small towns developed into larger towns and separate villages would sometimes grow together into the typically new industrial region. These industrial settlements would be often (as in the case of Sheffield) surrounded by the beautiful farms and hills so it allowed workers in the newly industrial areas to be half-agricultural.

At this point of time (about the 1870s or so), the great city was likely to contain many factories and could therefore be called industrial but it was much more a centre of commerce, administration, transport and various services. So, most of its inhabitants were workers. Industrial enterprise was not yet significant and was still ruled by the 'master', a man, rather than the impersonal authority of the company board of directors. The economy of the late-Victorian period contained a very different working class than what was to be seen before the railways came to 'globalize' the economy. The history of Europe and Britain in the nineteenth century cannot be written without acknowledging that the last quarter of the century is bound up with the construction of the great trunk lines.

SAQ

1. What are the variations we see on the earlier forms of industry in England and Europe ? (50 words)

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2. Do we see the master 'craftsman' of Elizabethan times in the nineteenth century, for instance? (30 words)

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3. Is there a comparable character among any of Chaucer's pilgrims ? Does Dickens give us any such character? (30 words)

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The railways carried forward industrialization which must be described in terms of those who were employed to build them: "armies of peasants", and the "armies of coolies" and those mechanics and engine-drivers that had to construct lines far away from their homes in England and Ireland. We can briefly refer to the example of a Thomas Brassey who employed, at times, eighty thousand men on five continents, to transform the human landscape by constructing railway lines. The railways, however, were only second to international shipping in the global perspective. The steamship was an important development in the world economy especially in the case of British trade. Industrialization received a further fillip with the development of the telegraph. It made a breakthrough in the 1830s after which rapid improvements were made.

Technological advances help to explain the force of industrialization. Industrialization led to large and substantial movements of population across the Atlantic (from Europe to the United States), within countries or between states, from town to town, and the rural exodus to the cities. There was a large exodus from agriculture. Here we can use Hobsbawm's description: "Since most Europeans were rural, so were most migrants. The nineteenth century was a gigantic machine for uprooting countrymen." The United States, Australia, Argentina, industrial Germany, and Britain saw a significant correlation between migration and urbanization. The overwhelming reason for migration was poverty. An example can be seen in the years from 1845-54 when there was a great wave of emigration especially from Ireland and Germany when people fled from hunger and from the pressure of population on land.

Check Your Progress

1. What was 'new' about this new working class?
(Hint: A new set of circumstances was likely to raise a new from of community-life.)
2. What were the visible signs of the new form of society?
(Hint: A break with traditional modes of behavior, for instance.)

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3. Elaborate the connection between industrialization and urbanization.
(Hint: Industrialization meant that settlements were growing in size.)
4. Comment on the significance of the railways in this period.
(Hint: It enabled the large-scale migrations of uprooted workers. It also spread industrialization.)
5. In what way was work newly organized?
(Hint: Describe the 'factory-system'.)

7.6 Industrial Economy & the Worker

Let us repeat a point already mentioned: the working class before the building of the railway network was very different from the one that came after it. Industrial development entered a new fertile phase in the later nineteenth century. This was partly due to the fresh scope that occurred for investments: railways, and metallurgical activities, for example.

SAQ

1. What is the exact connection between the size of industry and the nature of the working class ? (30 words)

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2. How does a larger industry create a more 'impersonal' environment for the worker? (50 words)

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This new phase of industrial development led to the formation of a great increase in the size and concentration of the working class. Large industrial concentrations now arose. Take an example: in the 1860s Tyneside (in northeastern England) had about twelve shipyards each employing about 1,500 men. In the period before the 1850s, there was nothing comparable there.

There was a simultaneous change in the occupational composition of the working classes. In 1851, there were less railway men than tailors, more shoemakers than coalminers, more silk workers than commercial clerks in Victorian England. From 1871 to 1911, the number of railway men increased fourfold, and miners more than doubled. In 1875, the

biggest national trade unions were the Amalgamated Engineers and the Operative Stonemasons. Then, the unions of the Boilermakers, Carpenters and Joiners, the Tailors and the Cotton Spinners emerged.

With the nineteenth century drawing to a close, in any industrializing, industrialized or urbanizing country of the world economy, was to be found these new historically unprecedented masses of labouring people, anonymous and rootless, who were apparently growing in majority. Where the cities of pre-industrial times had been mostly inhabited by people in the tertiary sector (shops, services, offices), cities had now becomes centers of manufacture. The big cities with over 100,000 inhabitants had about two-thirds of their occupied population in industrial occupations by the end of the nineteenth century. Each town or region was likely to be in some phase of industrial specialization. For example, textiles came to be associated with Dundee, coal, iron and steel, either alone or in combination, for Middlesbrough, armaments and shipbuilding for Jarrow and Barrow, and chemicals for Widnes. Moreover, there was now the tendency for many more of these armies of industry to work as parts of large and complex firms. In the new centres of heavy industry, especially, the plants would employ workers numbering from hundreds to thousands. The firms of Vickers in Barrow, or Armstrong in Newcastle measured their labour forces in tens of thousands. However, we have to note once more, that in terms of proportion of the entire labouring population, those in the giant factories were only a minority.

The growth in the number of the proletarians at this time was impressive. This was apparently due to the enormous scope provided by economic expansion. Industry was even now a combination of manual labour and steam technology and this made it easier for new recruits to find industrial occupation.

7.7 Emergence As A 'Class'

The 1880s are an important decade in English labour history because this was the period of the rise of socialism. By the end of the century politicians were aware of this 'class consciousness'. Workers, in this period, were scarcely more than paupers. The single fact of being wage-earners who, in common, faced manual labour and exploitation, fed a unifying sense among groups of people who were otherwise of diverse origins, diverse formations, with different languages and customs, and of varied economic situations. A common consciousness inevitably had to

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develop among these groups who were pushed together by a common style of life and a shared sense of thought. The working class, moreover, was distinct from the middle-classes.

Between 1870 and 1914 (World War I), politics began to touch upon economics. Governments had begun to take interest in the growth of industries. The widening of the franchise, as through the Reform Acts in England, meant that the majority of the electorate would be poor and insecure. The "tidal wave of western capitalism" which flooded the "developed" countries ensured that the numbers of those who lived by earning wages for manual labour was greatly increasing. Even in predominantly agrarian countries, manufactured products were finding markets. The spectacular increase in the numbers of wage-workers led to the formation of recognizable labour classes chiefly in the countries of old established industries as well as in the countries which were newly industrializing in Europe, North America, Japan and some other areas of white mass settlement overseas.

A Reform Act was passed by the English Parliament in 1832. It helped to bring in a change in the franchise by widening the electorate. However, its scope was not essentially democratic as the artisans, the working classes, and sections of the lower middle classes remained outside its ambit. The long Napoleonic wars had not brought peace and prosperity.The times were of open social conflicts centered on "corn and currency", or agriculture and credit. A 'Corn Law' was passed in 1815 to shore up prices of grain. Agricultural distress marked the 1820s. In Parliament, there was apparent conflict of interests between the industrialists and the landowning classes. The term 'middle classes' began to be used in social political debate. The new environment of work of the steam-driven factory system led to a break with old and familiar ways of life. The new sense of a working class was born in this time.

The proletariat, though deeply differentiated within its ranks, nonetheless became a significant section of society. Hobsbawm points out this inevitable fact: "the mass of workers was large, was indisputably growing, and threw a dark shadow over the established ordering of society and politics." From the time of the last two decades of the 19th century, till the first decade of the 20th, mass political parties based on the working class forced a new direction in politics.

The 'signs' of this new section of society can be traced to to the 1880s in England. There had sprung up the fish-and-chip shops and football was already a proletarian spectator sport of the time. Housing

occupied by the various sections of workers began to develop along specific patterns. Working class resorts came up as in the case of Blackpool. After 1870 there was a slight improvement in the material conditions of the workers. Undoubtedly, there were still very deep differences among the workers and they were not a unified homogeneous mass. Before the rise of the new parties, people talked of the 'working classes' rather than the 'working class'. The famous 'type' of the proletariat of modern industry was yet a minority although rapidly growing in numbers. There were yet more manual workers in small workshops in cities and countryside, spread over diverging and different locations. Boilermakers were exclusively male, cotton weavers were mostly female, and craftsmen differed from labourers, between labour aristocracy and the proletariats. There were differences of race, language and origin. But the single unifying fact was that those who lived by wages were increasingly separated from those paid no wages.

Space for Learner

SAQ

1. How is any distinction between classes to be made? (25 words)

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.....

2. How is the proletariat defined? What gives historical evidence of a new 'working class'? (70 words)

.....

.....

As a leader of industrialization, Britain was an exception in already having in existence non-political labour organization, trade unionism in the form of craft unions. Trade unions acquired legal status and privileges so substantial between 1867 and 1875 that employers were compelled to contend with their organization in the workplace.

The working-class holiday became an institution from the 1880s. Football culture became a national institution whose final recognition came with the attendance of the Cup Final by the king from 1913. Despite the differences already noted, "Labour" saw itself as a distinct class increasingly recognized by politicians. As Beatrice Webb remarked in 1915, "The power of the Movement lies in the massive obstinacy of the rank-and-file, every day more representative of the working class. Whenever this massive feeling can be directed for or against some particular measure, it becomes almost irresistible. Our English governing class would not dare overtly to defy it."

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7.8 The 'Rights of Man' and Romanticism

In the sections above, the period of history covered stretches from the end of the eighteenth century to the beginning of the twentieth. We have looked at the formation of the working class but without reference to its accompanying history of how the midddle-class came to distinguish itself from this labouring section. We need to keep in mind that the working class developed its own distinct identity in contrast to the middle class which reaped the fruits of its labour.

The other part of history which must be kept in view alongside that of labour, is the tradition of social reform and radicalism in English political thought. Let us recall our first unit above, "Ideas of the Enlightenment" and how these ideas contributed to the French Revolution in 1789. The name of Thomas Paine is important because he participated in the cause of American Independence in 1776 and later returned to England and published his radical pamphlet *Rights of Man* in 1791 and 1792, in reply to Edmund Burke's *Reflections on the Revolution in France* which condemned the French people's actions. Paine's book in 1791 gave a radical critique of contemporary society and asked for a republican government. The book was banned and Paine went into exile. In 1793 and 1796, he published *The Age of Reason*. Paine's writings expressed what was deeply felt by the masses of oppressed sections of society. Nineteenth-century free thought in England was influenced by *Age of Reason* and other thinkers like Rousseau, Holbach, and Voltaire.

The name 'Jacobin', after the famous 'Jacobin Club' which played an important part in the French Revolution, was also applied to radicals in England and other countries in the period Revolution. The revolution in France had a profound effect on English radical thinking. The English Romantic poets wrote their works under the impression of this profound upheaval and in sympathy with English Jacobinism. William Blake expressed this influence in his incomplete work, *Vala,* or *The Four Zoas*:

"What is the price of Experience ? do men buy it for a song ?
Or wisdom for a dance in the street ? No, it is bought with the price
Of all that a man hath, his house, his wife, his children.
Wisdom is sold in the desolate market where none come to buy,
And in the wither'd field, where the farmer plows for bread in vain."

This was in 1796-97. Both Wordsworth and Coleridge were well acquainted with Jacobinism. In this sense the Romantics may be recognized as occupying a special place in the history of English poetry.

Check Your Progress

1. Comment on the rise of the working class.

(Hint: Show how it grew in size and significance.)

2. Relate the rise of 'socialism' to the growing political significance of the working class.

(Hint: Observe how political discourse began to make use of the terms.)

3. Write briefly on the forms of working class culture.

(Hint: For example, football as a sport.)

4. Elaborate on the Romantic response to the Industrial Revolution.

(Hint: For example, Wordsworth's sympathy for the rustic, the Romantic worship of 'Nature'.)

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7.9 Summing Up

Through the above discussion an attempt is made to familiarize you with the idea of 'the working class', its emergence in the eighteenth century Europe and its influence on the society of its time. The most important factor behind the emergence of this class was the industrial revolution. Colonialism ensured huge markets for the products as well as sources of raw materials. The result was the growth of capitalism and the formation of the working class. The emergence of this class has been influential in the transformations in the socio-cultural lives of England as well as Europe. As such, the study of any work of art or literature of that age needs an understanding of the working class which had been the most dominant factor in socio-cultural environment of the eighteenth and nineteenth century England.

7.10 References and Suggested Readings

Hobsbawm, Eric. *The Age of Capital*, 1848 - 1875

Hobsbawm, Eric. *The Age of Empire,* 1875 -1914

Hobsbawm, Eric. *Revolutionaries*

Hobsbawm, Eric. *Worlds of Labour, Industry and Empire*

Thompson, E.P. *The Making of the English Working Class*

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Unit 8 : Darwinism

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Unit Structure:

8.1 Objectives

In this section, Unit 4, we take the learner to a most familiar name in intellectual history, Darwin. Darwin and his theory is familiar to most of us as related to the life-sciences, and biology in particular. But Darwin's theory also brought in many other issues related to society as much as to philosophy. In this unit, therefore, in keeping with the method used in all other units, we hope to help you to

- *understand* the nature of Darwin's theory
- *appreciate* its implications
- *interconnect* Darwin's ideas with his contemporary situation
- *gain* a perspective on Darwin's times through this centralizing concept

8.2 Introduction

The object of this unit is to explore the effects of Darwin's theory. A theory should be clear in its details but it should also be seen as part of larger social processes. To understand what Darwin meant to his contemporaries we must see how his work came to take its full shape and also how this theory, which could have been confined to scientific work nonetheless was so radical in its focus that it was necessarily going to be taken beyond its first concerns. This section is meant to make these interconnections clear.

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8.3 Darwin Himself

The term, 'Darwinism', takes us to Charles Darwin (1809 - 1882), the naturalist, whose findings regarding the evolution of species caused many in the nineteenth century to change their ideas about human history, the world of nature, and society. While the name of 'Darwin' came to be attached to a set of ideas regarding human society and the laws which appear to govern its history, the theory of evolution points to issues imvolving evolution itself, the history of evolution, and the processes by which evolutionary change occurs. So we can see here that we have to look at two aspects of the term, 'Darwinism'. In the paragraphs that follow we shall look at these two aspects by turns.

Turning to Darwin himself, we see in the account of his personal life that he had a secure and happy early life except for the death of his mother at the age of eight. When he was sent up to the University of Edinburgh, Scotland, to study medicine, he gained from his friendships with the zoologist, Robert Grant, and the geologist, Robert Jameson. The first introduced him to the study of marine animals, while the other stimulated his growing interest in the history of the Earth. Later, he was sent to the University of Cambridge to study divinity at Crhist's College. Rather than any academic excellence, we note Darwin's friendship with the circle of Cambridge scientists including the cleric-botanist John Stevens Henslow. With Henslow's encouragement Darwin learnt about science and gained confidence in his own abilities. In 1831, with his studies completed, and thanks to the recommendations of Henslow, Darwin was suggested for the voyage of the HMS Beagle, as observer and companion for its captain, Robert Fitzroy. Towards preparation for the scientific trip he read Alexander von Humboldt's *Personal Narrative of Travels to the Equinoctial Regions of the New Continent*. Thus Darwin set sail as an unpaid naturalist on board the HMS Beagle on a voyage to make survey of the east and west coasts of South America. The voyage lasted five years during which Darwin made meticulous notes and collected specimens for his studies in geology and biology.

The voyage of the Beagle was a singularly important event in Darwin's life because it transformed him into a scientist who was prepared to think independently albeit within the environment of science of his time. The work which Darwin accomplished on the voyage brought him celebrity before he even returned from it. Charles Lyell's *Principles of Geology* had been an influence on his scientific ideas but on the voyage Darwin found evidence

to challenge Lyell's views regarding the formation of coral reefs. Lyell later accepted Darwin's new interpretation which explained the formation as a slow and more gradual process, an interpretation which has been confirmed in the twentieth century. His constant findings of fossils of extinct species and their similarities with living ones raised the question of the processes by which this happened.

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Stop to Consider:

The concept of species

Darwin's attempt can be summed up as proposed explanation for the diversity of forms of life. He connected this to the idea of nature as process. Change takes place, from Darwin's perspective, over time and prompted by a process of natural selection. Since environments change through time and from place to place, different characteristics are selected naturally through different situations. These differences accumulate over time and result in new species. From everyday experience we know how to distinguish between species; external similarity between the members of a species is an obvious basis for identifying different species. An even more basic feature by which we identify species is interbreeding. By this we can understand how genetic changes are extended to all members of the same species and not to other species. Species are independent evolutionary units sharing a common gene pool.

A certain ambiguity exists in ignorance about whether interbreeding can take place between individuals living in different sites. The other area of ignorance is linked to the question of whether geographically separate populations whose members belonged to the same species at one time diverged at what point of time into two different species. It is in this sense that the question of the connection of 'Homo erectus' (human beings of about 20,000 generations ago) to 'Homo sapiens' (present-day human beings) is to be taken, i.e., the classification of remote human ancestors is more appropriately differentiated from modern human beings even though changes occur from one generation to the next.

In 1836, upon returning to England Darwin was soon made a member of the Athenaeum club and later the Royal Society, in recognition of his work by the scientific fraternity. Thereupon he met many whose names we remember as famous Victorians: Thomas Carlyle, Harriet Martineau and Charles Babbage among them. Henceforth, he began to prepare the record

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of his voyages as a journal but privately also began to write his notebooks which are regarded as being remarkable as they contain his observations on "the species problem" including data and facts collected through reading, letters and discussions with gardeners, zookeepers, naturalists, breeders and gardeners.

8.4 Theories of Species and Difference

Theories of evolution have existed for a long time as humans have sought to explain the existence of life, the world, and nature or God. Such explanations have been part of various cultures. These explanations have also tried to deal with the concept of mutation or metamorphosis. In traditional Judaism and Christianity the explanations have seen the origins of life as signs of an all-powerful divinity.

Greek philosophers of ancient times also had their creation myths. So we find that Anaximander saw mutation as underlying animal life, while Empedocles saw animal life as issuing and taking form from preexisting parts. In Christianity, the Church Fathers like Gregory of Nazianzus and Augustine saw some species, and not all, as having developed in historical time from God's creations. The reason here was thought to be religious rather than biological. Thus some species must have come into existence only after the Great Deluge or the Noachian Flood.

Medieval Christian theologians did not investigate questions of biological processes but the possibility was only incidentally considered by many, including Albertus Magnus and his student, St. Thomas Aquinas. The eighteenth-century did not develop any theory of evolution except in the idea of the possible descent of several species from a common ancestor, put forth by Georges-Louis Leclerc, Comte de Buffon.

Charles Darwin's grandfather, the physician Erasmus Darwin, made some speculations regarding evolution in *Zoonomia* or the *Laws of Organic Life*. The system of animal and plant classification put forth by Carolus Linnaeus was based on the fixity of species but his classification made it eventually possible to accept the concept of common descent.

The great French naturalist Jean-Baptiste Lamarck proposed a generalized theory of evolution in the early years of the 19th century in which living organisms are seen as progressions with human beings at the apex. In this theory modifications occur as organisms become adapted to their environment. An organ is reinforced or obliterated as it is used or left to disuse. Inheritance of characteristics would be based on such use or disuse. In the twentieth century, however, the theory was thoroughly

disproved. Nevertheless, Lamarck's contributions to the final acceptance of biological evolution are recognized.

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SAQ

1. How does the biographical information about Darwin give us an idea of the world of Victorian science? (50 words)

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2. How is the word 'species' normally used? (25 words)

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3. What were the earlier ideas regarding creation? (50 words)

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8.5 Darwin's Theory & Its Extent

It was only by 1842 that Darwin was confident enough in his theory to draft a short sketch. In 1844 he composed a longer version, which he showed to his friend, the botanist Joseph Dalton Hooker. Darwin was wary of presenting his theory to the public and thus spent the next decade concentrating on a treatise on barnacles in which he faintly suggested his theory. The intellectual atmosphere in England in the meantime having altered, discussions about evolution became commonplace. However, Darwin still held back from publishing his thesis until June 18, 1858, when a paper he received from Alfred Russel Wallace, a naturalist working in the Malay Archipelago, made him realize that his life's work may have been preempted by another. On July 1, 1858, a joint presentation by Darwin and Wallace was arranged before the Linnean Society of London by his friends and confidants, Lyell, Hooker, and T.H. Huxley. *On the Origin of Species by Means of Natural Selection, or The Preservation of Favoured Races in the Struggle for Life* was the 'abstract' of the larger manuscript Darwin had prepared. This was published on Nov. 24, 1859. The 'abstract' sold very well.

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In this 'Abstract', which forms the introduction to *The Origin of Species*, Darwin wrote : "In considering the Origin of Species, it is quite conceivable that a naturalist, reflecting on the mutual affinities of organic beings, on their embryological relations, their geographical distribution, geological succession, and other such facts, might come to the conclusion that each species had not been independently created, but had descended, like varieties, from other species. Nevertheless, such a conclusion, even if well founded, would be unsatisfactory, until it could be shown how the innumerable species inhabiting this world have been modified, so as to acquire that perfection of structure and co adaptation which most justly excites our admiration. Naturalists continually refer to external conditions, such as climate, food, etc., as the only possible cause of variation. In one very limited sense, as we shall hereafter see, this may be true; but it is preposterous to attribute to mere external conditions the structure, for instance, of the woodpecker, with its feet, tail, beak, and tongue, so admirably adapted to catch insects under the bark of trees. In the case of the mistletoe, which draws its nourishment from certain trees, which has seeds that must be transported by certain birds, and which has flowers with separate sexes absolutely requiring the agency of certain insects to bring pollen from one flower to the other, it is equally preposterous to account for the structure of this parasite, with its relations to several distinct organic beings, by the effects of external conditions, or of habit, or of the volition of the plant itself."

Beginning in 1837, Darwin's work dealt with the now well-understood concept that evolution is essentially brought about by the combined actions of three principles: (1) variation, a liberalizing factor allowing changes, present in all forms of life ; (2) heredity, the force that transmits similar organic form from one generation to another, therefore setting the limits on the extent of changes; and (3) the struggle for existence, which determines the variations that will allow the positive adaptations to a given environment. By the interplay of these forces, species achieved alterations through a selective reproductive rate.

Evolutionary theory centers on the three related issues of the fact of evolution itself which means that organisms are related by common descent, the evolutionary history which shows details of when lineages split from one another and the changes occurring in each lineage, and the processes or mechanisms by which evolutionary change occurs. Darwin himself collected great evidence to support the first issue.

Stop to Consider:

Lamarck's theory was based on the idea of series of staircases containing a vast sequence of life forms beginning with the simplest and extending to the most complex.He set out his ideas regarding the organization of life *Recherches sur l'organisation des corps vivants* (1802; "Research on the Organization of Living Bodies") and the *Philosophie zoologique* (1809; *Zoological Philosophy*). The two "laws" which he thought to govern the series was that firstly, organs are improved through repeated use and decline through disuse. Secondly, organs acquired or lost through environmental effects "are preserved by reproduction to the new individuals which arise." When Darwin's *Origin of Species* was published 50 years later, Lamarck's views generated great interest and controversy. After the 1930s, most geneticists discredited Lamarckism. One of the weaknesses of Lamarckism was that it was not based on direct evidence but was part of a larger surmise about evolution. However, Lamarck was the first to use the word "biology" in 1802 and although he is seen as a forerunner and not as a founder in the field of biological evolution, he is considered to have made fundamental contributions to systematic biology of the invertebrates.

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The theory of evolution has, since Darwin, extended its influence to other biological disciplines, from physiology to ecology and from biochemistry to systematics. All biological knowledge is based on the concept of evolution. The concept of changes through time and the term 'evolution' have both become foundations of scientific knowledge and language. Even in common language we make use of both the concept, and the term, 'evolution'.

While Darwin's notion of natural selection has also been extended to other areas of human discourse, as in sociopolitical theory and economics, the extension can only be metaphorical. In Darwin's intended usage, natural selection applied only to hereditary variations in entities endowed with biological reproduction. In other words, natural selection is a natural process in the living world. But for some the extension has been used as a justification for ruthless competition and for "survival of the fittest". This extended usage was applied to the struggle for economic advantage or for political hegemony. Thus social Darwinism became an influential social philosophy in some circles through the late 19th and early 20th centuries.

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Check Your Progress

1. Explain briefly the focus of Darwin's theory.
(Hint: Since we are students of literature, we are allowed to present laymen's points of view!)
2. Show how 'variety' and 'adaptation' are central to Darwin's theory.
(Hint: Use the two terms in your explanation of Darwin's theory.)

8.6 Further Effects

The theory of evolution has been seen by some people as being incompatible with religious beliefs, particularly those of Christianity. Particularly, the opening chapter of the Bible's Book of Genesis, which describes God's creation of the world, has been seen to be challenged by the theory of evolution. Evolutionary theory has also been seen to contradict the Christian belief in the immortality of the soul and of the idea that man was "created in the image of God."

Attacks on the theory on religious grounds started during Darwin's lifetime. An example occurred in 1874 when Charles Hodge, an American Protestant theologian, published *What Is Darwinism?*. This was one of the most articulate assaults on evolutionism. Hodge argued to show that the design of the human eye demonstrated the presence of the divine Creator, as the design of a watch evinces a watchmaker. Evolutionary theory thus showed that God is denied by "the denial of design in nature". Darwin's theory was both supported as well as criticised by theologians as well. The acceptance by Christian writers came only gradually, about as late as the 20th century.

The set of beliefs to which the name of 'Darwinism' or even 'Social Darwinism' has been given is the theory that persons, groups, and races are subject to the same laws of natural selection as perceptible in plants and animals in nature. According to the theory, which was popular in the late 19th and early 20th centuries, the weak are diminished and their cultures delimited, while the strong grow in power and exert cultural influence over the weak. The "survival of the fittest," was the phrase proposed by the British philosopher and scientist Herbert Spencer which the social Darwinists held to mean that the life of humans in society was a struggle for existence in accordance with this principle.

Walter Bagehot in England and William Graham Sumner in the United States, as social Darwinists, believed that the process of natural selection, acting on changes in the population would result in the survival and

continuing improvement in the population. The social Darwinists, therefore, viewed societies, as they viewed individuals, like organisms that evolve in this manner.

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SAQ

1. Why did Darwin's findings seem to challenge religious beliefs ? (80 words)

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2. What do the effects of Darwin's publications tell us of Victorian society ? (80 words)

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Turning to a most famous poem by Robert Browning, "Caliban upon Setebos", published in the volume of 1864, called *Dramatis Personae*, we can see an extension of the Darwinian debate. This poem by Browning is widely admired because of its artistic virtuosity and conceptual strength. The poem seems to have been occasioned by the "intellectual convulsion" following upon the 1859 publication of *The Origin of Species*, especially the focus on the "missing link" from ape to man. Although "Caliban"does not directly relate to Darwin's theory, the poem provides us with a window on the intellectual debates of the time. When we consider that William Paley's idea of "Natural Theology" published in his book in 1802 evoked debate, it is not remarkable that Darwinian Theory seemed to have directly weighed down on Christian theological notions of God. In his poem, Browning constructs 'Caliban' differently from Shakespeare's character in *The Tempest* to explore the tendency for human beings to create God in their own images.

8.7 Applying Social Darwinism

The advocates of laissez-faire capitalism and political conservatism found the theory to their advantage. Class stratification was justified on the basis of "natural" inequalities among individuals. Again, this was bolstered by the thought that the control of property was said to be a correlate of superior and inherent moral attributes such as industriousness, temperance, and frugality. In the light of such arguments it would be erroneous for

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attempts to reform society through state intervention or other means since these would interfere with natural processes. Thus the theory of natural selection became a handy weapon for the argument that unrestricted competition and defense of the status quo were in accord with biological selection. The theory allowed the conclusion that the poor were the "unfit" and should not be aided. Success could now be seen as the consequence of wealth. In its wider applications, social Darwinism was used to provide the philosophical foundations for imperialist, colonialist, and racist policies. Ideas of Anglo-Saxon or Aryan cultural and biological superiority received sustenance from ideas of natural selection.

Such applications of Darwinian Theory declined during the 20th century as an expanded knowledge of biological, social, and cultural phenomena undermined, rather than supported, its basic tenets.

On the basis of newer knowledge, neo-Darwinism has superseded the earlier concept and purged it of Darwin's lingering attachment to the Lamarckian theory of inheritance of acquired characters. Present knowledge of the mechanisms of inheritance are such that modern scientists can distinguish more satisfactorily than Darwin between non-inheritable bodily variation and variation of a genuinely inheritable kind.

SAQ

1. What is meant by laissez-faire capitalism? (30 words)

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2. How were Darwinian ideas used to justify the inequalities of contemporary society ? (50 words)

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8.8 Darwinism versus Religion

In the intensely evangelical climate of opinion of Victorian England, Darwin's ideas could have brought him within the scope of legal action for blasphemy and sedition. Even for the culture of science Darwin's findings in evolutionary theory were most radical. The natural world was seen by Victorians as one in which the spirit of God manifested itself in the creation of new species of plants and animals coming into existence in place of those that became extinct. The evidence that presented itself to Darwin was therefore certain to contradict this view of life.

In the course of his work Darwin's ideas regarding the fixity of species crystallized into a belief in transmutation. Further work was added to his notebooks. In October 1838, Darwin read Thomas Malthus' *An Essay on the Principle of Population* where the argument was maintained that population growth is geometric while the food supply increases only arithmetically. Thus population increase is always checked by a limited food supply. Darwin was compelled to attend to the issues of competition between species and then within species. Natural selection was the mechanism by which advantageous variations was passed on to succeeding generations. By this the traits of individuals that were less competitive would gradually disappear from populations. Later generations of biologists have come to understand variations within a species as variations in the genes of its individual members. They have explained evolution as the action of natural selection upon genes responsible for advantageous traits.

Darwin's theory has at its core the observation that hereditary variation is a fact of existence. It had been found through experience with animal and plant breeding that variations can be developed that are "useful to man." Darwin reasoned from this fact that variations must occur in nature that are useful or favorable to the organism itself as it struggles to exist. The chances for survival and procreation increase with favorable variations. The less advantageous variations are discarded and the advantageous ones are retained and multiplied in later generations. Natural selection is the name given to such a process. An organism that is well adapted to its environment is the result of such a process. As a consequence of this process evolution occurs.

From Darwin himself: "Let it be borne in mind in what an endless number of strange peculiarities our domestic productions, and in a lesser degree, those under nature vary; and how strong the hereditary tendency is. Under domestication it may be truly said that the whole organization becomes in some degree plastic. Let it be borne in mind how infinitely complex and close-fitting are the mutual relations of all organic beings to each other and to their physical relations of life. Can it, then, be thought improbable, seeing that variations useful to man have undoubtedly occurred, that other variations useful in some way to each being in the great and complex battle of life, should sometimes occur in the course of thousands of generations ? If such do occur, can we doubt (remembering that many more individuals are born than can possibly survive) that individuals having any advantage, however slight, over others, would have the best chance of surviving and of procreating their kind? On the other

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hand, we may feel sure that any variation in the least degree injurious would be rigidly destroyed. This preservation of favorable variations and the rejection of injurious variations, I call Natural Selection. "

Most scientists readily accepted the theory. The clergy found it inconsistent with a literal interpretation of the Book of Genesis. Darwin's theory did not allow scope for divine intervention. Mankind was removed from a position of superiority vis-à-vis the rest of the animal world. Man was placed as part of a continuum with the rest of nature and not separated by divine injunction.

After the publication of the *Origin*, Darwin continued to write, while friends continued to defend the theory before the public. Huxley and Hooker were among those friends who continued to spread what was tantamount to a gospel of evolution. Darwin elucidated his theory through his three other books: *The Variation of Animals and Plants Under Domestication* (1868), *The Descent of Man, and Selection in Relation to Sex* (1871) (which took up the issue of human evolution) and *The Expression of the Emotions in Man and Animals* (1872).This last book laid the groundwork for the study of areas including neurobiology, and communication theory in psychology.

The *Origin of Species* caused considerable public excitement as it was read by notable figures of all kinds. During the 1860s and thereafter, evolution by natural selection was a favorite topic of discussion and debate. The most unpleasant distortion of Darwin's work came in the notion of "social Darwinism" which extended the crude idea of 'struggle for existence' to interpretations of human economic and social life.

The nineteenth century saw its own share of scientific advances but among all of these the theory of evolution by natural selection was the most crucial. However, it is necessary to note that the *concept* of evolution was not new, having been familiar for some decades. The new feature in Darwin's theory was the explanation it provided for the origin of species. In the field of biology, the advances were not as dramatic as in chemistry which flourished in this period. In the previous half-century great advances had been made in the physical sciences. Thus it was the theory of evolution which was the single most significant advance in the period as it touched upon fields far removed from pure biology. This theory brought 'history' into all the sciences; it swept aside the line between natural and the human and social sciences.

The idea of organic evolution was not new. It had been suggested a generation earlier by Erasmus Darwin and in France by Buffon,

Montesquieu, Maupertuis, Diderot, and most recently, Jean-Baptiste de Monet, Chevalier (Knight) de Lamarck. Lamarck, as a forerunner in the field, had drawn the first evolutionary diagram—a ladder leading from unicellular organisms to man.

The theory of evolution by natural selection was significant for the way in which it combined a historical view of the universe with uniform, unchanging and continuous laws. We can expand this further by comparing what the geologists had done: the enormous variety of whatever could be observed on the inanimate earth was the result through enough time of the operations of the same forces as visible at present. Natural selection helped to explain the greater variety of living species. Through such conceptions the special status of man was abolished.

Stop to Consider:

The obvious sometimes needs to be stated: the living world is truly staggering in its diversity. How is this diversity of plants and animals to be explained?

The evolutionary process lies behind this infinite variety of living species. All living creatures are descended from common ancestors. In one respect this relates living creatures to one another. Modifications occur in the process of biological evolution. The lineages of organisms change as generations follow on one another. Lineages descending from common ancestors diverge from one another giving rise to diversity.

Darwin's explanation of how organisms come about by evolution was incomplete even though it was scientific and essentially correct. For instance, his explanation of how evolution occurs served well to show why it is that organisms have features, such as wings, eyes, and kidneys, clearly formed to serve specific functions. His explanation rested on the fundamental concept of natural selection. In the twentieth century, the modern theory of evolution has arisen with the science of genetics which explains in detail how natural selection works. Molecular biology, a related scientific discipline, has made it possible to find out about problems which had earlier seemed impossible to understand.

SAQ

1. In what sense was Darwin's theory a radically new conception? (50 words)

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.....

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Space for Learner

Space for Learner

2. What was the Victorian view of God's world? (20 words)

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3. What was the main idea of 'Natural Selection'? (50 words)

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8.9 Literature & Darwin

The interest in evolutionary theory was widespread in English intellectual life in the latter half of the nineteenth century. Major writers of the period show this interest in various aspects of their works. A fictionalized portrait of Darwin appears in 1866 in *Wives and Daughters* by Elizabeth Gaskell. The debate in scientific circles regarding evolution is to be seen in Charles Lyell's *Principles of Geology* (1830-33) as well as the greatly popular *Vestiges of Creation* (1844) by Robert Chambers. Scientific ideas were topics of enthusiastic interest even outside the scientific community, among poets, novelists, and readers with intellectual interests. In the period before the publication of *On the Origin of Species* (1859), England saw heavy industrialization as it changed over from a largely agricultural sociological condition. Such rapid change in the conditions of living brought tremendous anxiety and disorientation. There was a prevailing sense of doubt and anxiety as established ways of thinking were challenged. The typically Victorian sense of uncertainty over either hope or doubt stems in part from this feeling of being cut loose from the old familiar ways of life.

We can refer to Tennyson's great poem In *Memoriam A.H.H.* as a famous example of the effects of Darwin on literary imagination. Sections 55 and 56 of the poem especially express Tennyson's thoughts on the topic. But, as noted by scholars, Tennyson's conception of evolution is different from Darwin's: Darwin's theory did not see evolution as targeting a goal but rather as the ability of a species to adapt to a given environment. The Victorian novel serves best of all in showing the influence of Darwin's discourse. We can see this in George Eliot's *Middlemarch*, for instance, where the novelist is able to suggest that the world of nature is to be seen through time and not as timelessly static. Some of the subtler points of Darwinism appear better in literary writings.

Stop to consider:

Perhaps the best literary expression of Darwin's theory is to be seen in the movement called 'Naturalism'. Writers of this movement were influenced by Darwinian theory and attempted to portray character as determined by surroundings and heredity. As with realism, naturalistic writers were involved in a reaction to earlier Romantic ideas and thus sought to incorporate the 'scientific' element into their writing by tracing the deeper forces of heredity or environment. In this attempt both realist and naturalist tended to focus on the darker side of society, often stressing the uncouth or the sordid. Emile Zola, the French writer, is considered to represent the school of literary naturalism.

Space for Learner

8.10 Advances to the 20th Century

The development of the microscope in the seventeenth-century had far-reaching effects on. It was a device through which a whole new world hitherto invisible was discovered .However, the 17th and the 18th centuries were more concerned with the organization of this new knowledge. But it was in this period that it began to be realized how important it would be to study living organisms as well as man with a comparative approach. The long-prevalent idea of spontaneous generation, or the idea of the generation of living organisms from nonliving matter had begun to recede by the 18th century but it was finally disproved by the work of Louis Pasteur. The 19th century development of evolutionary theory was aided by biological expeditions which added to existing knowledge. In the 19th century we see great progress in biology, as in the formulation of the theory of evolution, establishment of cell theory, laying of the foundations of modern embryology and discovery of the laws of heredity.

Simultaneously, we must note that 'biology' at first, at the beginning of the nineteenth century, meant the study of human life. In the history of ideas, it should be noted that terms periodically undergo transformations of meaning and intent. In the discussion of Darwinism, let us not forget that 1900 was the year of the rediscovery of Mendel's work. Gregor Mendel had published his work in 1866, but it was not until 1900, 16 years after Mendel's death, that his work was rediscovered independently by Hugo de Vries in Holland, Carl Erich Correns in Germany, and Erich Tschermak von Seysenegg in Austria. In Mendel's work was found the technical confirmation of Darwin's work. Finally, the controversy regarding the purpose of evolutionary processes was brought to rest.

Space for Learner

Check Your Progress

1. Briefly outline the reception accorded to Darwin's new theory.
(Hint: The scientists did not reject it.)
2. What was the central point of 'Natural Selection'?
(Hint : 'Natural' improvement was transmitted through variations..)
3. How did Darwinism infuse 'history' into the natural world?
(Hint: Time became an important feature of variation.)
4. What was the effect of Darwinian theory on the world of literature?
(Hint: Besides Tennyson, Hardy, Zola— and others. Try to find out.)

8.11 Summing Up

In this unit, we have learnt about one of the most familiar names in intellectual history, Charles Darwin. Darwin and his theory are familiar to most of us as related to the life-sciences, and biology in particular. However, apart from a scientific study, Darwin's theory is also significant in analyzing and understanding many other issues related to the society as well as to conduct philosophical studies. In the given unit, we have dealt with the various implications of Darwinism, from the beginning to today's contemporary time.

8.12 References and Suggested Readings

Encyclopedia Britannica

Beach, Joseph Warren : *The Concept of Nature in Nineteenth-Century English Poetry*, (London : Macmillan)

Levine, George : *Darwin and the Novelists: Patterns of Science in Victorian Fiction*, (Cambridge & London : Harvard University Press)

Robert Young: *Darwin's Metaphor: Nature's Place in Victorian Culture* (Cambridge: Cambridge University Press).

Links:

//en.wikipedia.org/wiki/Naturalism

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