

INDUSTRIAL ETHIC



2.0 PROFESSIONALISM AND CODES OF ETHIC

2.1 ENGINEERING AS A PROFESSION

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2.1.1 Introduction to Engineering as a Profession

What is Engineering?

Engineering is the application of scientific principles, mathematics, and creativity to solve real-world problems, design systems, create technologies, and build structures or processes that improve human life and the environment. At its core, engineering is about creating solutions that bridge the gap between theoretical knowledge and practical application. Engineers apply scientific theories from fields such as physics, chemistry, and biology to develop innovative solutions to a wide range of problems. They are problem-solvers, designers, and innovators, tasked with developing systems, processes, and products that meet societal needs. The field is divided into various branches, including mechanical, civil, electrical, chemical, software,

aerospace, and biomedical engineering, each of which focuses on different aspects of technology, infrastructure, and human needs. The engineering design process involves problem identification, research, ideation, design, testing, implementation, and evaluation, ensuring that solutions meet both functional requirements and safety standards.



2.1.2 Impact of Engineering

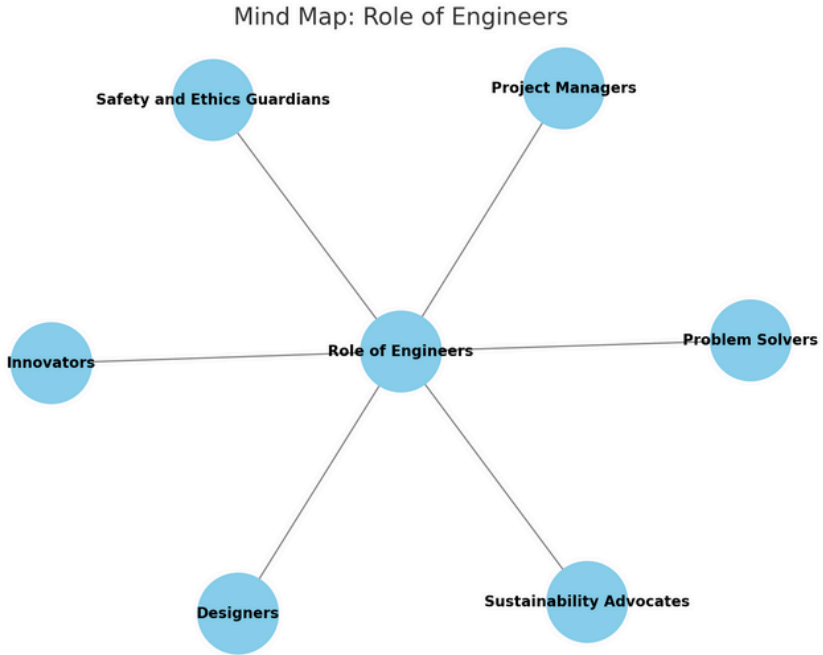
Engineering is integral to the modern world, shaping the technologies and infrastructure that power our daily lives. The impact of engineering is seen everywhere, from the devices we use to the cities we live in. Here are several ways engineering impacts society:

- **Technological Advancements** : Engineers drive technological innovation by designing and building systems and products that enhance our lives.
- **Infrastructure Development** : Civil and mechanical engineers play a key role in designing and constructing critical infrastructure. Roads, bridges, airports, and public transport systems all rely on the expertise of engineers to ensure they are safe, efficient, and durable.
- **Environmental Sustainability** : As the world faces the challenge of climate change, engineers are on the frontlines of developing sustainable solutions. From renewable energy sources like solar and wind power to green building technologies and sustainable farming practices.
- **Healthcare and Medicine** : In medicine, engineers have contributed to the development of life-saving medical technologies such as MRI machines, pacemakers, and prosthetics.
- **Economic Development** : Engineers are often at the heart of the industrial and manufacturing sectors. They design processes and systems that increase production efficiency, reduce costs, and improve quality.



2.1.3 Role of Engineers

The role of engineers is multifaceted and varies depending on their specific discipline, but there are several key aspects that define the profession across all fields:



- **Problem Solvers:** Engineers are essentially problem-solvers who tackle challenges using science, technology, and creativity.
- **Designers:** One of the most fundamental roles of engineers is design. Engineers create blueprints, plans, and prototypes for systems and products.
- **Innovators:** Engineering is a profession that thrives on innovation. Engineers are responsible for developing new technologies and systems that push the boundaries of what's possible.
- **Project Managers:** Engineers often take on the role of project managers, overseeing the execution of engineering projects.
- **Safety and Ethics Guardians:** Engineers are responsible for ensuring that their designs, systems, and processes are safe for people and the environment.
- **Sustainability Advocates:** Engineers play a leading role in ensuring that the technologies and systems they create are sustainable.

2.2

MORAL REASONING

2.2.1 WHAT IS MORAL REASONING?

Moral reasoning is the process of determining what is right or wrong, good or bad, in a particular situation. It involves making decisions based on ethical principles, values, and standards. In a professional context, moral reasoning helps individuals navigate difficult decisions, ensuring that their actions align with the broader responsibilities they have to society, clients, and the workplace.

2.2.2 PROFESSIONALISM AND ETHICS

Professionalism refers to the behavior, attitudes, and qualities that characterize a person as a professional in their field. These qualities include competence, responsibility, integrity, and respect for others. In addition to these traits, ethical behavior plays a crucial role in maintaining the trust and respect that professionals must earn from others.



Example: A nurse working in a hospital might face a situation where a patient's family insists on a treatment that the nurse believes may not be in the patient's best interest. The nurse's moral reasoning involves balancing the family's wishes with the ethical duty to do what is best for the patient's health.

2.2.3 WHAT ARE CODES OF ETHICS?

A code of ethics is a set of guidelines that outlines the ethical principles and standards of behavior expected from members of a particular profession. These codes are designed to guide professionals in making ethical decisions and help protect the integrity of the profession. Adherence to a code of ethics helps ensure that professionals act in the best interests of their clients, employers, and society.

2.2.4 WHY CODES OF ETHICS MATTER:

- **Consistency**
They provide a consistent framework for decision-making.
- **Accountability**
They hold professionals accountable for their actions.
- **Trust**
They help build public trust in the profession by ensuring that professionals act ethically and responsibly.

2.2.5 COMMON ETHICAL PRINCIPLES IN CODES OF ETHICS:

- **Honesty and Integrity**
Professionals must act truthfully and transparently.
- **Respect for Others**
Treating all individuals with dignity, fairness, and respect.
- **Confidentiality**
Protecting the privacy of clients and sensitive information.
- **Accountability**
Professionals must take responsibility for their actions and decisions.

2.2.6 APPLYING MORAL REASONING AND ETHICS IN REAL-LIFE SITUATIONS

Moral reasoning is a key skill for professionals, helping them make decisions that align with both ethical standards and their personal values. In everyday work, professionals often face situations where the right choice isn't clear-cut. Ethical decision-making involves carefully weighing options and considering how each choice affects others.

2.2.7 WHY INTEGRITY MATTERS

Integrity is the foundation of ethical behavior. Professionals are expected to act honestly and consistently, even when faced with challenges. This builds trust with clients, colleagues, and the public. A person with integrity sets a positive example and ensures that their decisions are guided by ethical values rather than personal gain or external pressure.

2.2.8 THE BROADER IMPACT OF ETHICAL DECISIONS

The choices professionals make don't just affect individuals—they have a ripple effect on society. Ethical behavior builds public trust and contributes to a positive reputation for the entire profession. For example, doctors, lawyers, and engineers all make decisions that can directly impact people's lives and safety. When professionals follow ethical principles, they help create a more just, safe, and fair society.

2.3

CODES

OF

ETHICS

2.3.1 What is a Code of Ethics

A Code of Ethics is one that describes an organizations values and principles, it provides guidance on how employees should behave. This includes everything from integrity and fairness to accountability and safety. It acts as a framework for ethical decision-making and establishes standards of conduct.

2.3.2 Compliance and Ethical Standard

In industrial ethics, compliance is adherence to laws and regulations as well as the company's own ethical standards. Yet, ethical responsibility is more than simple legal necessity – it requires doing the right thing as a matter of course.



2.3.3 Core Principles of Industrial Ethics

Fundamental Elements of Industrial Ethics

Within the realm of industrial ethics, there are four underlying fundamental principles:

Integrity – Functioning with honesty and transparency

Fairness – Providing equitable treatment to all employees and stakeholders.

Responsibility – Accepting the consequences of actions

Safety: Providing a safe and healthy working environment for all.

2.3.4 Case Study in Industrial Ethic

The importance of ethics in industry: real-life examples October 2023 Reducing emissions in the fight against climate change by one company. One focused on better protocols to maintain employee safety, while the other pledged equitable labor practices in its supply chain.



2.3.5 The Future of Industrial Ethic

Technological advancements such as AI and automation, as well as globalization pose new ethical dilemmas in the industrial sector. The ethical codes set in the future will also consider these changes and ensure compliance around the world.



2.3.6 Corporate Social Responsibility (CSR)

Corporate Social Responsibility (CSR) refers to a company's duty to operate sustainably and contribute positively to society. In industry, this includes environmental stewardship, ethical supply chains, and engagement with local communities.



2.4

ETHICAL THEORIES IN PROFESSIONALISM AND CODES OF ETHICS

2.4 Ethical Theories in Professionalism and Codes of Ethics



Ethical theories provide structured frameworks that guide professionals in making ethical choices, particularly in situations where right and wrong may not be immediately clear. By applying these theories, individuals can better align their decisions with the ethical standards and values of their professions, ultimately fostering trust and accountability in their work. The following sections explore four central ethical theories commonly applied in professionalism: deontological ethics, consequentialism, virtue ethics, and care ethics.

2.4.1 Deontological Ethics

Deontological ethics, often referred to as duty-based ethics, emphasizes the importance of following set rules, duties, and obligations in determining what is ethically right. Developed by the philosopher Immanuel Kant, this theory suggests that individuals should act according to principles they would want everyone to follow, thereby creating universal standards for ethical behavior. For example, if honesty is a valued principle, then individuals guided by deontological ethics would always tell the truth, believing that honesty should be upheld by everyone as a universal duty. Deontological ethics, therefore, highlights the role of consistent rules and principles in moral decision-making, placing them above personal desires or potential outcomes.



In the context of professionalism, deontological ethics underscores the importance of adhering to established codes of conduct and ethical guidelines, even in situations where these rules might seem inconvenient or restrictive. For instance, a healthcare provider might refrain from sharing confidential patient information with others, even if doing so could bring about a positive outcome, because respecting patient confidentiality is a professional duty. This strict adherence to duty fosters accountability and demonstrates respect for the professional standards set by the field, regardless of external pressures or possible benefits.



Ultimately, deontological ethics places a high value on consistency and integrity in professional behavior, reinforcing that one's ethical obligations are paramount. By maintaining a duty-centered approach, professionals can develop a strong ethical foundation that upholds their credibility and builds public trust. This commitment to ethical duty, even in challenging situations, establishes a clear moral structure that guides professionals in fulfilling their responsibilities honorably and reliably.

2.4.2 Consequentialism (Utilitarianism)

Consequentialism, particularly in the form of utilitarianism, shifts the focus from strict rules to evaluating the outcomes of actions to determine what is ethically right. Popularized by philosophers such as John Stuart Mill, utilitarianism suggests that the best moral choice is the one that generates the greatest good for the greatest number of people. In this view, ethical decisions are judged by their impact, meaning that actions producing the most beneficial results for society are considered the most ethical. This outcome-oriented approach encourages individuals to weigh the potential consequences of their actions before making a choice.

When applied to professional contexts, consequentialism guides individuals to consider how their decisions might benefit or harm others. For instance, an engineer might decide to add enhanced safety features to a product, even if these upgrades increase production costs, in order to maximize the safety and well-being of users. In this way, consequentialist thinking prioritizes actions that bring about the most favorable outcomes for the majority, often encouraging professionals to take a broader, societal perspective when evaluating their choices.

The core of consequentialist ethics lies in its flexible, pragmatic approach, which adapts to circumstances to find solutions that are beneficial on a larger scale. By assessing the potential outcomes, professionals are encouraged to think beyond immediate obligations and focus on the broader impact of their actions. This results-driven approach aligns ethical decisions with societal well-being, making consequentialism a valuable theory for fields that prioritize public welfare, such as engineering, healthcare, and public policy.



2.4.3 Virtue Ethics

Virtue ethics, unlike duty-based or outcome-focused theories, centers on the character and moral virtues of the individual, advocating that ethical actions arise from a person's commitment to embodying good character traits. Rooted in the philosophy of Aristotle, virtue ethics proposes that individuals should develop qualities such as honesty, integrity, and courage, as these virtues guide them toward ethical choices. According to this theory, by cultivating moral virtues, individuals naturally become better equipped to make ethical decisions in various circumstances, as their character drives their actions.

In professional environments, virtue ethics encourages individuals to act in ways that reflect moral virtues, thereby fostering a trustworthy and principled workplace culture. For example, a manager guided by virtue ethics might approach decision-making with transparency, fairness, and empathy, consistently seeking to treat their team members with respect and integrity. By embodying these virtues, the manager not only makes ethically sound choices but also sets a positive example that inspires others to uphold similar values in their work.



Ultimately, virtue ethics emphasizes the importance of developing a strong moral character as the foundation for ethical behavior, encouraging professionals to integrate qualities such as honesty, empathy, and fairness into their daily interactions. This character-centered approach goes beyond specific rules or outcomes, focusing instead on the individual's commitment to personal growth and moral excellence. As a result, virtue ethics fosters a sense of responsibility and accountability, urging professionals to lead by example and cultivate ethical standards that benefit both their teams and their broader communities.

2.4.4 Care Ethics

Care ethics, which emerged as an alternative to traditional rule-based theories, emphasizes the importance of empathy, compassion, and relational responsibilities in ethical decision-making. Developed by psychologist Carol Gilligan, care ethics proposes that ethical behavior often involves considering the needs and well-being of others, especially within close relationships and communities. This perspective recognizes that people are interconnected and that caring for others is a vital aspect of ethical action, particularly in professions where empathy and understanding are crucial.



In professional settings, care ethics guides individuals to consider the emotional and relational aspects of their interactions, encouraging them to prioritize care and support. For instance, a social worker guided by care ethics might go beyond mere procedural requirements, taking extra steps to understand a client's unique circumstances and offering emotional support where needed. By focusing on the client's well-being, the social worker demonstrates a commitment to compassion and empathy, which strengthens the professional relationship and supports ethical practice.

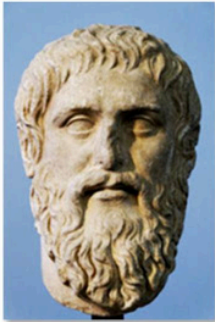
The philosophy of care ethics ultimately enriches professionalism by fostering a sense of responsibility toward others' well-being, particularly in fields where direct human interaction is central. This relational approach adds depth to ethical considerations, urging professionals to balance duty with compassion. By promoting a caring, empathetic mindset, care ethics helps professionals build supportive, positive relationships, contributing to ethical practices that respect the dignity and individuality of those they serve.

2.5 BRIEF HISTORY OF ETHICAL THOUGHTS

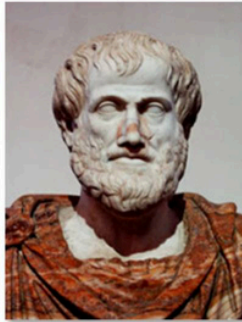
2.5.1 ANCIENT ETHIC

GREEK PHILOSOPHY

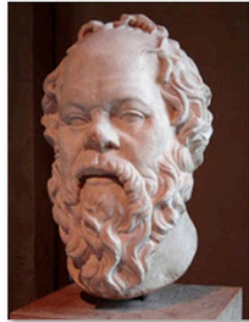
The Great Greek Philosophers



Plato



Aristotle



Socrates

Plato (427–347 BCE):

Asserted that true morality was rooted in transcendent ideals, with his concept of the Forms, particularly the Form of the Good, as the ultimate source of virtue.

Aristotle (384–322 BCE):

Introduced virtue ethics, focusing on character development and the concept of achieving eudaimonia (flourishing) through balanced virtues like courage, wisdom, and temperance.

Socrates (470–399 BCE):

Believed that ethical behavior was linked to knowledge and the pursuit of virtue, advocating for self-examination as a path to moral understanding.

EUTHYPHRO PROBLEM

The Euthyphro Problem is a classic philosophical dilemma originating from Plato's dialogue Euthyphro, which features a conversation between Socrates and a religious expert named Euthyphro. This problem has significant implications for understanding the nature of divine command theory and the relationship between morality and religion.

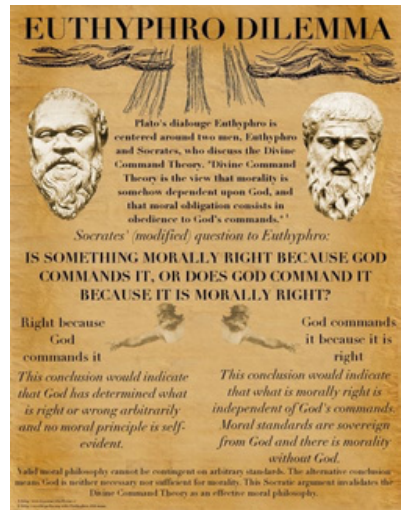
Socrates sparked an ethical discussion by casting doubt on the significance of old customs.

If a man's own customs were not adequate, on what basis could he establish his morality? This quandary became the central theme of Sophocles' dialogues.

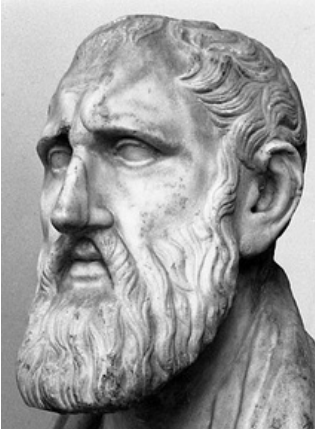
According to him, an unexamined existence was unworthy of living, and hence it is important to dismantle the crutches of tradition in order to properly comprehend conduct.

In contemporary philosophy, the Euthyphro Problem continues to provoke discussion about the nature of ethics, whether morality can exist independently of a divine being, and how to ground objective moral values.

Secular ethicists may use this problem to argue for the existence of moral standards without the need for divine command, pointing to alternative bases for morality such as human well-being, reason, or evolutionary processes.



2.5.2 CLASSICAL AND HELLENISTIC ETHICS



1.Zeno of Citium



2.Marcus Aurelius

Stoicism

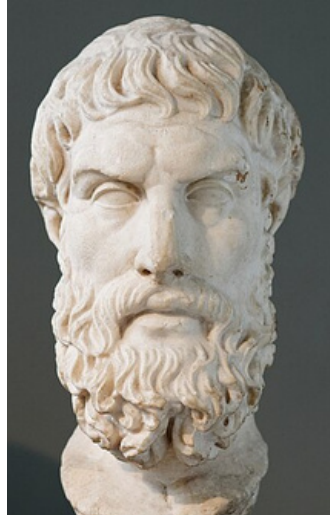
Founded by Zeno of Citium [1] and later developed by Seneca and Marcus Aurelius[2], Stoicism taught that living in harmony with nature and accepting one's fate rationally was essential. Virtues such as wisdom, courage, and self-control were central to this philosophy.

Stoicism teaches the development of self-control and fortitude as a means of overcoming destructive emotions. The philosophy holds that becoming a clear and unbiased thinker allows one to understand the universal reason (logos). Stoicism's primary aspect involves improving the individual's ethical and moral well-being: "Virtue consists in a will that is in agreement with Nature. This principle also applies to the realm of interpersonal relationships; "to be free from anger, envy, and jealousy", and to accept even slaves as "equals of other men, because all men alike are products of nature".

Epicureanism

Epicureanism is a system of philosophy founded around 307 BCE based upon the teachings of Epicurus, an ancient Greek philosopher. Epicurus was an atomist and materialist, following in the steps of Democritus.

His materialism led him to religious skepticism and a general attack on superstition and divine intervention. Epicurus proposed that the highest good is pleasure, advocating for a life of moderation where long-term well-being is prioritized over short-lived indulgences.

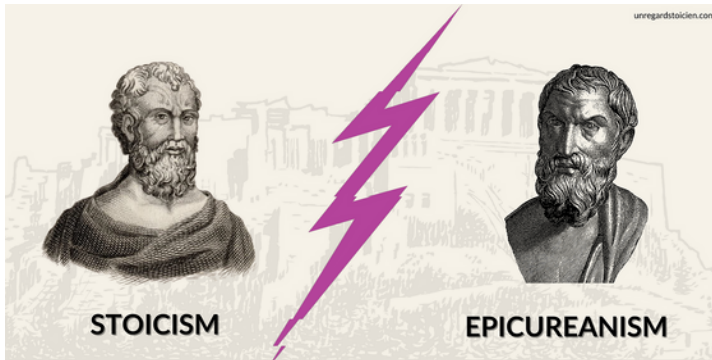


At the heart of Epicureanism is the belief that the ultimate goal of life is achieving pleasure, which Epicurus defined as the absence of pain (both physical and mental). However, his concept of pleasure was not hedonistic indulgence but rather the pursuit of a tranquil and modest life.

In principle, Epicurus's ethic of pleasure is the exact opposite of the Stoic's ethic of duty. The consequences, however, are the same: in the end, the Epicurean is forced to live with the same temperance and justice as the Stoic. Of utmost importance, however, is one point of divergence: the walls of the Stoic's city are those of the world, and its law is that of reason; the limits of the Epicurean's city are those of a garden, and the law is that of friendship. Though this garden can also reach the boundaries of earth, its centre is always an individual.



STOICISM VS EPICUREANISM



Epicureanism	Stoicism
The soul is a part of your body that disappears after your death with no afterlife	The soul is the divine part of you that lives on after you die and receives reward or punishment for how you lived
Get as much enjoyment out of life as you can	Live virtuously and in harmony with the gods' will for you
Emotions are something to be embraced. Feel deeply, and pursue what makes you feel good.	Emotions are something to be controlled. You can't control what happens to you, but you can control your reaction.

2.5.3 MEDIEVAL ETHICS



Islamic Philosophy

Islamic philosophy is related to but distinct from the theological doctrines and movements in Islam. Al-Kindi, for instance, one of the first Islamic philosophers, flourished in a milieu in which the dialectic theology (kalām) of the Muʿtazilah movement spurred much of the interest and investment in the study of Greek philosophy, but he himself was not a participant in the theological debates of the time. Al-Rāzī, meanwhile, was influenced by contemporary theological debates on atomism in his work on the composition of matter. Christians and Jews also participated in the philosophical movements of the Islamic world, and schools of thought were divided by philosophic rather than religious doctrine.

Other influential thinkers include the Persians al-Farabi and Avicenna (Ibn Sīnā), as well as the Spaniard Averroës (Ibn Rushd), whose interpretations of Aristotle were taken up by both Jewish and Christian thinkers. When the Arabs dominated Andalusian Spain, the Arabic philosophic literature was translated into Hebrew and Latin. In Egypt around the same time, the philosophic tradition was developed by Moses Maimonides and Ibn Khaldūn.

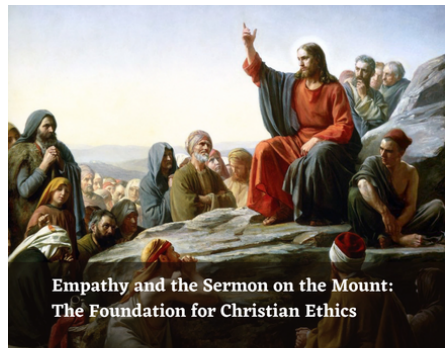


Christian Ethics

Medieval ethics integrated classical thought with religious doctrines. St. Augustine emphasized divine law as the foundation of morality, while St. Thomas Aquinas advanced natural law theory, suggesting that reason could guide humans to understand moral truths in accordance with divine will.

St. Thomas Aquinas argued that moral principles are discoverable through reason and align with the nature of God's will. According to Aquinas, God's laws are rational and inherently tied to human well-being and flourishing. This approach supports the idea that divine commands are consistent with an objective moral order that humans can perceive through reason.

The Ten Commandments (Exodus 20:1-17) outline core moral imperatives, such as honoring one's parents, avoiding theft, and abstaining from falsehood. In the New Testament, Jesus' teachings, especially those in the Sermon on the Mount (Matthew 5-7), expand on these principles by emphasizing inner purity, humility, and the transformative power of love.



Christian ethics are rooted in the teachings of the Bible, emphasizing the moral guidance provided by the Old and New Testaments.

2.5.4 HINDUISM (100–400 BCE)

Hindu literature dates as far back as 1000 BCE, promoting ethics as a means to moksha, or liberation from the cycle of reincarnation. Hinduism assigns four distinct stages to life, each with increasing moral demands.



In the first stage, that of the student, sensory pleasure is given the highest significance. In the second stage this self-indulgence gives way to increased self-control as the individual shifts focus to the faculties of the householder.



The third segment of life turns to the more religious focus of the wandering beggar where the individual pursues thorough religious understanding (dharma). The final stage is a continuation of this religious pursuit characterized by an even stricter practice of meditation.



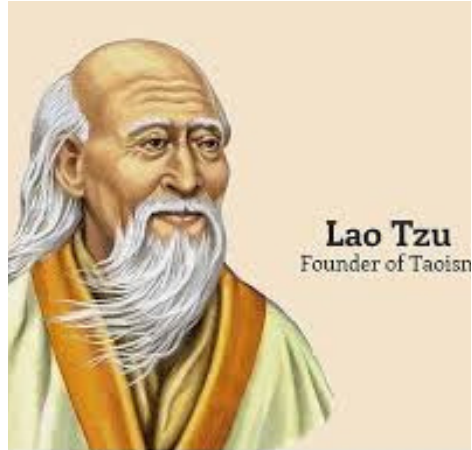
Hindu ethics continue to influence contemporary issues such as environmentalism, social justice, and community welfare. The principle of ahimsa underpins various non-violent movements, most notably championed by Mahatma Gandhi, whose approach to civil disobedience was rooted in Hindu ethical teachings.

2.5.5 TAOISM (800–200 BCE)

This Chinese philosophy is attributed to the philosopher Lao Tzu and promotes retreat from society as a means of attaining social and personal harmony.

In the 6th century BCE The Tao Te Ching or The Way and its Power emerged, establishing the basis of what would later become known as Taoism.

But imposing moral rules merely exacerbates social ills and cannot get at the real root of the problem. Indeed, morality should be abandoned for.



According to Taoists, life ought to be lived in harmony with nature, in simplicity and spontaneity. Society, though, has become increasingly complex and man's innate goodness has been obscured by desire, subsequently society has adopted morals in an effort to cope with the vices of desire.



Taoism recognizes the universe as a dynamic balance of complementary forces: Yin (the receptive, passive, feminine) and Yang (the active, assertive, masculine). These opposites are not in conflict but exist in a symbiotic relationship, creating balance and harmony.

Understanding and embracing the interplay of these forces is essential to achieving harmony with the Tao.