

**People's Democratic Republic of Algeria**  
**Ministry of Higher Education and Scientific Research**  
**University of Amar Telidji Laghouat**  
**Faculty of Letters and Languages**  
**Department of English Language**



# **Ethics of Knowledge in Scientific Narratives: Moral Conflicts in J. Robert Oppenheimer's Life in American Prometheus**

A Research Proposal Submitted in Partial Fulfillment of the Requirements for  
the Degree of Master in Civilization and Literature

**By: Fulla Lagraa**

Supervised by: **Dr. Mohammed Naoumi**

**2024/2025**

**People's Democratic Republic of Algeria**  
**Ministry of Higher Education and Scientific Research**  
**University of Ammar Telidji Laghouat**

**Faculty of Letters and Languages**  
**Department of English Language**



# **Ethics of Knowledge in Scientific Narratives: Moral Conflicts in J. Robert Oppenheimer's Life in American Prometheus**

A Research Proposal Submitted in Partial Fulfillment of the Requirements for  
the Degree of Master in Civilization and Literature

**By: Fulla Lagraa**

## **Board of Examiners**

	President	University of Ammar Telidji
Dr. Mohammed Naoumi	Supervisor	University of Ammar Telidji
	Examiner	University of Ammar Telidji

**2024/2025**

## *Dedications*

I dedicate this work to myself, for the strength and perseverance that carried me  
through every challenge.

To my mother, the source of my happiness and enduring support,  
whose love has been the greatest comfort and source of inspiration.

To my beloved father, who believed in me

To my brothers whose special support  
encouragement have been a world to me.

And to my sister,

thanks for your constant care,

To all my teachers, for their unconditional support and encouragements

To my dear friends Lilia, Naima all my classmates

for their friendship,

And finally to the Director Christopher Nolan , for the spark.

## **Acknowledgements**

Praise be to Allah, the almighty, as many as He has created, as large as the expansion of His Realm, and as heavy as the weight of His Throne.

I am sincerely and heartily grateful to my supervisor, Dr. Mohammed Naoumi, for his insightful comments and broad-minded guidance at all stages of my research work and for his timely and constructive feedback.

I owe very special gratitude to all teachers of the Department of English at the University of Ammar Telidji for their precious suggestions and valuable pieces of advice.

## *Abstract*

Knowledge has always played a dual role in human history, serving both as a source of progress and as a cause of destruction. This dissertation investigates the ethical dimension of knowledge by examining the life of J. Robert Oppenheimer as represented in *American Prometheus* and contrasting it with Albert Einstein's moral stance. The central problem addressed is whether knowledge can exist independently of virtue.

To explore this issue, the study adopts a qualitative literary–philosophical approach. Aristotle's virtue ethics—particularly the concepts of the Golden Mean, *phronēsis* (practical wisdom), and *eudaimonia* (human flourishing)—serves as the primary theoretical framework. The biography *American Prometheus* is used as the main text, supported by additional works on ethics and science.

The findings reveal that Oppenheimer, despite his intellectual brilliance, represents the tragedy of knowledge pursued without virtue, while Einstein illustrates knowledge guided by moral responsibility. The study concludes that knowledge is never morally neutral; it must always be connected to virtue if it is to serve humanity responsibly.

## Table of Contents

Dedication.....	iii
Acknowledgments.....	iv
Abstract.....	v
Table of Contents.....	vi
General Introduction.....	1

### Chapter One

#### *Theoretical and Historical Foundations of the Ethics of Knowledge*

Introduction.....	10
I. The Nature of Knowledge: Historical Evolution .....	14
I. 1 -The Middle Ages.....	16
I. 2-Renaissance and the Rise of Empiricism.....	18
II. Defining Ethics and Its Relation to Knowledge .....	6
II.1 - Knowledge vs information.....	7
III. Ethical Theories: Aristotle, Kant, and Mill .....	8
III. 1- Aristotle: Virtue Ethics and Practical Wisdom.....	9
III. 2-Kant : Duty ,Universal law and Respect for Persons .....	10
III.3-Mill : Utilitarianism and the Calculus of Consequences .....	11
Conclusion .....	30

**Chapter Two:**

***Ethical conflicts in J.Robert Oppenheimer’s Life A Narrative Analysis of American  
Prometheus***

Introduction .....33

I. Historical Background: the road to war and the Age of Scientific Power .....35

II. Oppenheimer’s Early Life and Ethical Formation.....36

II. 1-Intellectual formation and the Seeds of Moral Dilemma .....40

III. Role in the Manhattan Project: Scientific Glory and Moral Ambiguity.....42

III. 1-Oppenheimer’s Tragic Conflict : From Scientific Arete to Ethical Anxiety.....41

. III. 2 Einstein and Oppenheimer: Divergent Paths of Virtue .....43

IV. Interpreting Oppenheimer through ethical framework.....47

Conclusion .....51



***General Introduction***

## General Introduction

---

The acquisition and application of knowledge is a fundamental concern of modernity. New technologies and scientific discoveries have greatly expanded human capabilities, but have also increased moral danger, from nuclear physics to AI (Resnik, 1998; Steneck, 2007). In this context, J. Robert Oppenheimer is a striking example: commemorated for his scientific accomplishments but burdened morally by the ethics of the atomic bomb. Reading his life with that of Albert Einstein, who advocates for peace and takes responsibility, unlike the tragic Oppenheimer, poses the question of whether knowledge can exist devoid of virtue (Bird & Sherwin, 2005). Much scholarship locates Oppenheimer in the past or the political area; fewer books place his biography as a work of literature to interrogate moral discomfort and ethical creation. This thesis answers by analyzing *American Prometheus* as narrative, asking how the narrative itself characterization, tone, and motif—creates a moral fable of scientific power and responsibility. This study pursues three linked objectives.

First, In an effort to elucidate the knowledge ethics and information vs. knowledge distinction (Abbas, 2010; Bates, 2005). Second to make Aristotle's virtue ethics—specifically *phronēsis* and *eudaimonia*—the overarching framework of reference to judge scientific responsibility (Aristotle, trans. 1999).

And third, to read Oppenheimer's biography (with Einstein as counterpoint) as a literary composition that experiments with whether intellectual genius in the

## General Introduction

---

absence of virtue results in tragedy (Bird & Sherwin, 2005; Isaacson, 2007). In order to achieve these objectives, this study addresses the following questions:

RQ1: In what ways does *American Prometheus* create ethical tension in Oppenheimer's life as a narrative (and not just as a report on facts)?

• RQ2: How does Aristotle's virtue ethics comment on the alignment or lack of Alignment between Oppenheimer's intellectual genius and moral responsibility?

• RQ3: In what way is Einstein a counter example of *phronēsis* and moral courage?

Knowledge unguided by virtue turns into destructive power; knowledge coupled with virtue begets human flourishing. By answering these questions, this study employs (1) conceptual analysis of key ethical concepts, with (2) close reading of *American Prometheus* as literary biography reading for narrative strategies (characterization, foreshadowing, motif, tone) and (3) applied ethical interpretation from Aristotle's categories. The primary text is Bird and Sherwin's *American Prometheus* (2005), in addition to canonical ethical texts (Aristotle; Kant; Mill) and research ethics and science ethics scholarship (Resnik, 1998; Steneck, 2007).

This research targets Oppenheimer and Einstein since they are the focus of *American Prometheus* and related ethical controversy. It does not attempt a full

comparative analysis with the 2023 film adaptation , or a definitive historical survey of all of the Manhattan Project figures. Kant and Mill are used for

## General Introduction

---

limited comparison only ; Aristotle provides the long frame, as required by supervisory direction. However, By treating biography as literary narrative, the thesis shows how narrative accounts provide moral knowledge. The argument offers a clean, theory-based account of scientific responsibility that can be used to address modern controversies (e.g., AI, biotechnology): knowledge must be integrated with virtue in order to amount to wisdom (Aristotle, trans. 1999).

This thesis divided into two chapters ,we begin by exploring Theoretical and Historical Foundations of the Ethics of Knowledge:

Explains ethics of knowledge; differentiates knowledge vs. information; traces a succinct history of knowledge ; bases the central framework on Aristotle's virtue ethics, with Kant/Mill as the secondary opposites (Abbas, 2010; Bates, 2005; Aristotle, trans. 1999). In the second chapter we move to Ethical Tensions in the Life of J. Robert Oppenheimer: A Literary Case Study: sets WWII /Manhattan Project context; follows the early shaping of Oppenheimer; surveys his leadership and moral nuance; reads the life through Aristotle and

counterexemplarily through Einstein; illustrates how the story itself generates moral discomfort (Bird & Sherwin, 2005).



## **Chapter One**

# ***Theoretical and Historical Foundations of the Ethics of Knowledge***



## Introduction

Throughout history The pursuit of knowledge has shaped human civilization , it drives scientific discovery, philosophical inquiry, and literary expression . But as we learn more about the world, we are also presented with an ethical quandary ; namely , are there limits to what we should study ? Ethics is the field of philosophy concerned with defining what is right and wrong and the ways in which knowledge is gained and utilized. Debates on the boundaries of knowledge vis-a-vis the principles of right and wrong have long remitted in theoretical context, mostly related to the audience of readers with an intellectual curiosity about substantive issues of ethics .Clashing with moral responsibility : this chapter looks a lot at ethics of knowing. It carefully defines what knowing is, looks at the philosophical underpinnings , examines the historical development of this knowing , and looks closely at moral issues related to pushing the boundaries of intellectual exploration.

Over centuries , the pursuit of knowledge has been a determining factor in humanity's progress, driving scientific research , philosophical debate, and literary investigation. And with every subsequent breakthrough , an uneasy moral dilemma is raised : are there bound aries to what we ought to know? Ethics , that

## ***Chapter One Theoretical and Historical Foundations of the Ethics of Knowledge***

---

branch of philosophy, is just concerned with discovering right from wrong and examining the gaining and application of knowledge.

The ethical debate regarding the limits of intellectual inquiry has generally remained in the sphere of hypotheses, being directed towards individuals having difficulty with the implications of moving the frontiers of knowledge further. The morality of knowledge is investigated in this chapter by taking apart the very concept of "knowing," critically analyzing its philosophical underpinning, tracing its evolution through history, and critiquing the ethical paradoxes that arise when intellectual curiosity touches down against moral responsibility. (Bloor, 1991, p.5).

To grasp the ethics of knowledge, we must first take into account its origins. Acquisition began as an innate human questionableness, motivated by experience, stories, and initial philosophical thoughts. Ancient societies such as Egypt and Mesopotamia implemented orderly means of storing information, which laid the ground for scientific inquiry and ordered learning. From these early assumptions, we draw distinctions between knowledge and information as major considerations in understanding how acquiring knowledge has a moral aspect to it. Paradigms like Ackoff's DIKW pyramid infer that knowledge is more than information; there's interpretation, there's transformation, and wisdom involved. The ethics of knowledge therefore emerge not just from what is acquired but also from how we categorize and utilize such knowledge (Abbas, 2010, p.1013; Bates, p.2059).

## **Chapter One *Theoretical and Historical Foundations of the Ethics of Knowledge***

---

The Middle Ages saw the mingling of religion and philosophy in defining knowledge . This period also shows the manner in which knowledge ethics was shaped by authority , tradition , and ideological domination Development of scientific thought led to significant shifts in how people gained knowledge.

Until the 1500s, knowledge was mainly run by religion and classical literature, and authors used recognized authorities rather than experimental research. During the medieval period, there was no organized experimentation, and new ideas were generally faced with opposition. Intellectual exploration was revived by the Renaissance, however, respecting observation, artistic discovery, and humanism. Such rational thinkers as Leonardo da Vinci embodied this transformation by employing experimentation and direct observation of the natural world. Such a reformed reformed spirit of discovery paved the way for the Enlightenment, where skepticism and reason became guiding principles. John Locke advocated knowledge born of experience, while Immanuel Kant attempted to reconcile rationalism and empiricism (Kant ,2012).

Nowadays, knowledge ethical issues have become more in the limelight . Knowledge Has been applied to science, technology , and policy, leading to ethical issues, particularly In the fields of nuclea r physics, biotechnology, and artificial intelligence. The cases of Oppenheimer and Einstein reveal the ethical issues when knowledge may be applied for destruction. Although we move forward in knowledge, we must critically think about its application and see that intellectual development is guided by ethical

## ***Chapter One Theoretical and Historical Foundations of the Ethics of Knowledge***

---

responsibility This chapter now seeks to call forth the moral dimensions of knowledge from various philosophical schools. Ethics was a means of achieving eudaimonia human flourishing through practice of virtues in Aristotle's thought. Kantian deontological ethics placed obligation before outcome, asking whether knowledge must be pursued without moral restraint. Mill's utilitarianism, by contrast, weighed moral actions by net benefit to society, balancing threat and gain from intellectual discovery. These perspectives provide critical frameworks for imagining the ethical aspects of knowledge in an era where information abounds, but moral concerns become more and more complex.

In tracing the trajectory of knowledge from ancient speculation to systematic scientific research, we come to better value how intellectual conquests lead to ethical dilemmas. The question is whether we should seek knowledge at any cost, or if there are moral boundaries to the things we wish to know. This chapter provides a foundation for a fuller examination of moral anxiety in later discussion, where the nexus of knowledge, power, and ethics will be discussed in greater detail.

## *I. The Nature of Knowledge: Historical Evolution*

*“The greatest enemy of knowledge is not ignorance, it is the illusion of knowledge.”*

— *Stephen Hawking.*

This epigraph establishes the leading question of the chapter: the ethical significance of knowledge in human existence. The illusion that knowledge on its own guarantees wisdom or ethical superiority is the perpetual danger to the history of ideas; this chapter charts that danger historically and situates the ethical theories subsequently applied as tools in the case study of following chapters.

To determine the morality of knowledge we must start by wondering: what is “knowledge”? Historically, the term has shifted in both application and intent. In antiquity Knowledge (epistēmē) and wisdom were almost considered identical: to know how to understand the ordering of things and one’s place in them. Medieval thinkers adopted the classical demand that truth was part of the good life, but they added a theological teleology: knowledge was ultimately for God and Christian virtue. During the Renaissance the recovery of classical education and the amplification of human faculties redefined knowledge as a human project: inquiry, technical and a newly expanded interest in the natural world (early human/moral conflicts also reappear here).

## ***Chapter One Theoretical and Historical Foundations of the Ethics of Knowledge***

---

The Enlightenment amplified that strain. Reason, method, and the cult of progress placed knowledge at the forefront of social reform. Institutional science and scientific method extended the ambit of information and technical power. By the nineteenth and twentieth centuries, knowledge had become both instrument and capital: a force for production capable of reshaping economies and more importantly, the vehicle of destruction. The discovery of nuclear fission and the rapid militarization of atomic theory in the 1930s–1940s are characteristic of this threshold: knowledge moved from exploration to infrastructure and finally to weapon. The Manhattan Project demonstrated the historic scale on which scientific knowledge may be marshaled for state purposes, yet raising new issues of collective moral responsibility, secrecy, and the ethical price of scientific success. This trajectory of history displays two related changes central to this thesis. Firstly, the social function of knowledge changed: it acquired instant, massive political and military consequences. Secondly, intellectual and popular attitudes towards knowledge became ambivalent: there was admiration for human ingenuity coupled with concern about unintended harm. That ambivalence is the context in which the ethical frameworks of Section III must be understood.

➤ **I.1 The Middle Ages :**

People understood the world around them very differently back then, and religion played a very significant role in everyday life. Philosophy too was active and influential. Both religion and philosophy were intricate parts of the cultural life and shaped people's sense of self and their outlook on existence and reality. Religion during this time served as a great source of both comfort and conflict. Certain religious practices imparted a sense of security and unity and in comparison some had more fierce reactions against religion that led to conflict. Powerful moral and ethical imperatives and beliefs were also central to understanding through religion. Philosophy flourished too as scholars sought rigorous examination of life and perception.

Philosophy at that time wasn't just talking about ideas alone ; rather it engaged deeply with the questions about morality, logic, and truth. Emotions and distinct cultural traits of that time also played a part. So when these scholars and the faithful interacted, there was a mutual exchange of thought and emotion.

The period was replete with struggle, contemplation, and great insight. This rich tapestry of concerns from both religion and philosophy is both an illustration of the profound nature of human intellect and captures how deeply life is perceived and understood.

In a long time ago, people dealt with religion and philosophy literally. Religion was big because people found it very comforting ; in some cases, it was even seen as a cause of argument. The key was sheer morality and core beliefs that people could hold. People studied philosophy

## ***Chapter One Theoretical and Historical Foundations of the Ethics of Knowledge***

---

back then too ; they asked questions about logic and truth very seriously. Back then, philosophy was not just about ideas ; they put facts and underlying questions into deep scrutiny. People of that time had their own ranges of feelings and were generally this way. So when philosophies and faithful folks interacted, there was an exchange of thoughts and feelings too.

So during a time of struggle and many minds thinking, there were insights too. Both religion and philosophy painted a rich picture of deep concerns. It shows cases just how much people think and how they understand life very seriously.

During the Middle Ages reason and religious ideas went hand in hand. Islamic and Christian scholars strove to bridge reason and faith. In the Islamic Golden Age (around the 8th to the mid 14th centuries) philosophers such as Al Farabi (872-950), Avicenna (980-1037), and Averroes (1126-1198) kept the best parts of Greek wisdom and expanded further on them adding refinements to medicine and advancing both astronomy as well as mathematics.

In Christian world they have Saint Augustine (354 to 430 AD) who held very high regard for divine revelation ; his thinking was absolutely to lay claim to that as the supreme source of knowledge. Over at the same time, Thomas Aquinas (1225 to 1274) posited that we can reconcile reason and faith together. He bridges together logic of Aristotle and Christian theology<sup>12</sup> as he sees them as congruent. Method of Scholastics developed in universities of the medieval era aimed at ordering knowledge through rigorous debate and using dialectic reasoning.

## **Chapter One *Theoretical and Historical Foundations of the Ethics of Knowledge***

---

### **➤ I.2 The Renaissance and the Rise of Empiricism:**

From the 14th to mid 17th centuries glorified classical learning and fostered a spirit of inquiry centered on human values (Renaissance, 2025). Great thinkers like Leonardo da Vinci (born 1452 and passed away in 1519) exemplified the aspirations of a person who is a master of many kinds of knowledge (Leonardo da Vinci, 2025).

Leonardo da Vinci used keen observation and experimentation to broaden understanding of the arts and also of body structure such as anatomy and engineering design (Leonardo da Vinci, 2025).

This culture of intellectual curiosity and drive to acquire knowledge against nothingness outlived him left a lasting legacy. Within this era, onwards came another key decade of thinking and change. The aptly named Enlightenment brought forward a flowering of intelligence driven by reason and an interest in the affairs and individual pursuits of people (Enlightenment, Duignan & Encyclopaedia Britannica Editors, 2025).

## **II. Defining Ethics and Its Relation to Knowledge**

Ethics is a set of moral principles or rules that help to define right and wrong. These principles, as reflected in simple axioms such as honesty, integrity, and fairness, are taught through socialization in various settings, including families, schools, and religious institutions

## ***Chapter One Theoretical and Historical Foundations of the Ethics of Knowledge***

---

like churches, mosques, and temples. Ethics also establish standards of behavior that delineate acceptable and unacceptable behavior. More broadly, ethics are the socially accepted norms of conduct, and adherence to ethical principles is often identical with obedience to the law (Velasquez et al .1)

Ethical concerns are imperative in scientific research for various reasons. They serve to sustain the pursuit of knowledge and truth and minimize mistakes. Any violation of ethics in research can lead to misconduct in the form of falsification, fabrication, and plagiarism.

Scientists are sometimes driven to be unethical due to their academic departments pressuring them to publish work in high-visibility journals. For example, junior faculty can feel pushed to produce a large number of publications in an attempt to advance their careers or achieve tenure. This pressure is at times relayed to postdoctoral and graduate student researchers and can lead to unethical behavior (Steneck 55) .

Scientific misconduct may take many forms, ranging from deliberate manipulation of research material, data falsification, misrepresentation of results, or improper record-keeping. It may also involve inventing authorship, undue affiliation of individuals with research work, or disproportionate citation of one's own publications to artificially boost citation metrics. Other unethical practices include the addition of irrelevant content, data falsification, manipulation of statistical results, and manipulation of visual presentations such as electron microscopy images and graphs.

## ***Chapter One Theoretical and Historical Foundations of the Ethics of Knowledge***

---

When it comes to ethics in the modern world we usually think of general principles of right and wrong moral laws. Knowledge ethics is a special kind of ethics that looks at how we acquire and use knowledge. In modern times we can also think about general principles that guide us on using knowledge for the benefit of society and how that use might conflict with human rights and other principles. Yet certain norms have become important assertions in ethical life which offers both challenges and opportunities(Resnik7). The way we use knowledge today is often seen as a matter of intelligence and selfishness rather than exhibiting any kind of concern or responsibility to ward society. We need to be cognizant and ask what kind of ethics makes sense in light of all the knowledge we acquire. Whether through research, education, or even certain forms of art and literature, how we have come to place value on that knowledge is a matter of ethical life. This is an ethical dilemma worth deliberating as we engage with a world increasingly dominated by information.

Ethics is the part of philosophy that deals with questions of right, good, and obligation. Practically speaking, ethics assists us in judging actions, dispositions, and institutions. For purposes of this project two clarifications are important. First, knowledge and information. Information is specific facts, data, and propositions. Knowledge in its proper sense is comprehension, integration, and the power of wise action on what is comprehended. A laboratory data set is information; the choice of using or not using a technology is an exercise of knowledge in that it is moral judgment. Confusing information with knowledge speaking to data as though it possesses inherent moral authority — is a widespread modern error and

## ***Chapter One Theoretical and Historical Foundations of the Ethics of Knowledge***

---

one Hawking's remark warns against.. According to Merriam-Webster dictionary, knowledge is the fact or condition of knowing something with familiarity gained through experience or association, also is acquaintance with or understanding of science, art, or technique. Another definition, Knowledge is the fact of condition of being aware of something and it is the range of one's information or understanding.

### ***II.1-Knowledge vs information***

The distinction between information and knowledge is another example of defining knowledge in contrast to some inferior thing or state. In fact, information is the content of propositional knowledge. Widely referenced in the knowledge management field, Ackoff's (1998) data -information- knowledge -wisdom (DIKW) pyramid perceives knowledge in transformative terms and maintains those more fundamental and higher things or states required to transform information into knowledge . Although regularly appealed to and spoken about, DIKW is never properly and coherently explained, one of the problems being that it tends to cut across both mentalistic notions of knowledge and external, informational notions (Abbas 1013; Bates 2059) .

In any event, a distinction between information and knowledge is a fruitful line of questioning to highlight in the development of a knowledge ethics due to the supposed distinction between an information economy and a knowledge economy. It is also crucial in examining how a



## ***Chapter One Theoretical and Historical Foundations of the Ethics of Knowledge***

---

knowledge ethics differs analytically from allied ethical studies, including and particularly information ethics.

Second, study ethical stakes. Science appears to be value-free in its study, but what to study, how to apply conclusions, and whom to involve invokes moral values. Research ethical concerns range from the micro level (scientists' honesty, informed consent) to macro level concerns (weaponizing science, environmental destructions, structural injustices). In physics during the twentieth century these macro-scaled concerns move to the forefront: studies that produce ostensibly value-free knowledge can produce technologies that remap political influence and human vulnerability. With these interests at stake, the questions of normative concern are the following: What moral standards should govern inquiry and application of knowledge? Who bears the final responsibility for scientific applications? How does one cultivate the prudence to foresee—or at least temper—the probable consequences of research? These are the questions we address through the classic ethical methods detailed Below.



### **III. Ethical Theories: Aristotle, Kant, and Mill**

This chapter outlines three principal ethical theories—virtue ethics (Aristotle), deontological ethics (Immanuel Kant), and utilitarianism (John Stuart Mill)—and delineates how each deals with the relationship of knowledge and the good. The aim is not to adjudicate between them here, but to offer conceptual tools to be applied to the case study. (The final chapter will examine, in light of the biography, the extent to which Aristotle’s framework most accurately portrays Oppenheimer’s moral dilemma.) .

➤ . **III. 1- Aristotle: Virtue Ethics and Practical Wisdom :**

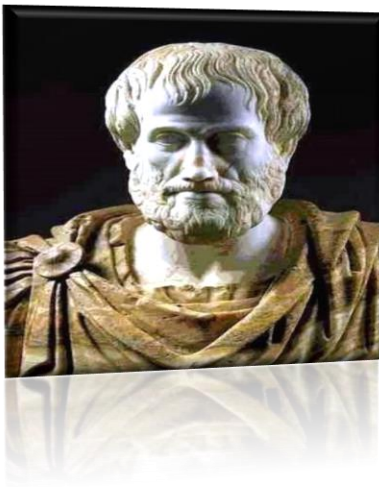


Figure 1 Alexandre le Grand,2025

Aristotle (384–322 BCE) was a student of Plato developed comprehensive system in logic. Aristotle’s combination of empirical observation and analytical reasoning resulted in his work being a systematically encyclopedic thinker. He created a

## ***Chapter One Theoretical and Historical Foundations of the Ethics of Knowledge***

---

systematically virtue ethics of ethical practice and the development of prudent judgment, which has had a profound effect on later developments in moral philosophy (Barnes, 2000).

Aristotle viewed knowledge (epistémé) as a venture that is in accordance with virtue and human flourishing (eudaimonia.) To him, the telos<sup>24</sup> of knowledge was not mere accumulation but the gain of practical wisdom (phronesis), which guides moral action. In *Nicomachean Ethics*, Aristotle argues that knowledge should be for living well” (Aristotle 1097b-1098a).

Aristotle also emphasized that virtue lies neither at the extremes of behavior nor but rather at the middle point between the two, a principle commonly referred to as the “Golden Mean”. As maintained by Aristotle, all moral virtues lie between two vices: an excess vice and a deficiency vice (*Nicomachean Ethics*, trans. Irwin, 1999). To illustrate, courage is the Golden Mean between cowardice and recklessness, and generosity is the Golden Mean between wastefulness and stinginess. This middle ground is not arithmetical but actual, founded on judgment and tact in situations. Aristotle therefore directly linked the Golden Mean to phronēsis (practical wisdom), the mental faculty which guides human beings to make choices that result in eudaimonia (human flourishing).



## ***Chapter One Theoretical and Historical Foundations of the Ethics of Knowledge***

---

In my work, the Golden Mean is employed to clarify the distinction between Oppenheimer and Einstein. Oppenheimer's intellectual greatness pushed him to extremes too much seeking after knowledge without sufficient restraint—so his virtue was off balance, with horrific results. Einstein, however, is a more Aristotelian balance: he combined scientific understanding with moral sense and great adherence to the mean which Aristotle described. This makes the Golden Mean a suitable prism through which to demonstrate how Einstein fits into Aristotle's vision of flourishing and wisdom, and how Oppenheimer and its failure.

In the context of modern science such as the atomic age the question arises: Is it part of ethical living to pursue atomic knowledge, or has it lost its value?

Aristotle's ethical paradigm will allow us to interpret characters such as Einstein as moral philosophers who saw knowledge as a stepping stone to peace and human flourishing. His ideas will also show how Oppenheimer's shift from theoretical physicist to political figure points to a distancing from that ideal.

Aristotle thought of knowledge (epistémé) as an activity that is compatible with virtue and human flourishing (eudaimonia 26) The telos of knowledge, for him, is not accumulation, but the acquisition of practical wisdom (phronésis), which leads to ethical living. In

## **Chapter One Theoretical and Historical Foundations of the Ethics of Knowledge**

---

Nicomachean Ethics, he argues that knowledge is to be for the sake of living well (Aristotle 1097a-1103a).

Aristotle's ethical system allows us to regard Einstein as a philosopher-scientist who regarded Knowledge as the solution to peace. It also indicates to us how Oppenheimer's transition from physicist to politician signals the relinquishing of that ideal.

### **➤ . III. 2-Kant : Duty ,Universal law and Respect for Persons**

Kant based knowledge on reason and moral obligation. His categorical imperative requires one to act only on maxims that would be universal laws . Translated to the ethics of knowledge , this implies that scientists have an obligation to take into account the moral implications of their findings. If the development of nuclear weapons cannot be universally recognized as a moral action, then such knowledge could be against Kantian ethics. Oppenheimer's later regret is consistent with Kant's argument: that knowledge pursued without regard for ethics leads to failure in ethics. Kant's moral philosophy will be the lens through which to analyze Oppenheimer's moral dilemma in *American Prometheus*. His internal conflict can be seen as reason confronted by the moral weight of scientific discovery. ( Kant, Immanuel. *Groundwork for the Metaphysics of Morals*. Translated by Mary Gregor , Cambridge University Press, 2012).

➤ . **III.3-Mill : Utilitarianism and the Calculus of Consequences**

Utilitarianism evaluates actions by their impact, to make happiness maximum and suffering minimum. For Mill, the moral worth of producing or using knowledge depends on good over evil balance. For wartime scientific decision-making, utilitarian calculation reputedly gets into debates that the atomic bombing of Japan ended the war and saved lives. But utilitarianism also requires strict accounting with dispersed and long-term harm radiation poisoning, geopolitical instability, armaments races—complicating excessively the straightforward calculus. Mill's approach makes consequences the primary measure of moral permissibility, but the intractability of estimating all consequences makes the utilitarian verdict challenging in practice. Mill's utilitarianism holds judgment by outcome: knowledge is correct if it creates the greatest happiness and the least amount of suffering. Scientific advancement, such as nuclear physics, must be gauged as to whether it advances the greater good. The atomic bomb, while justified by some as ending World War II, also brought about destruction on a huge scale. Mill's framework tests us to weigh scientific advance against human cost a dilemma at the core of Oppenheimer's record and the ethics of the 20th century.

Mill's utilitarianism will be applied to describe how characters and narrators in *American Prometheus* rationalize the development of the atomic bomb and introduce it as a tragic necessity. His theory is particularly useful in interpreting moral compromise and

## ***Chapter One Theoretical and Historical Foundations of the Ethics of Knowledge***

---

consequentialism in scientific leadership. Mill, John Stuart. *Utilitarianism*. Edited by Roger Crisp, Oxford University Press, 1998. The history of knowledge reveals a transition from philosophical inquiry to technological supremacy. Knowledge in the past was predominantly connected with metaphysical and ethical concerns. However, with the advent of modern science- especially during the Enlightenment period knowledge turned empirical, mechanical, and instrumental (Gaukroge3-9).

. Nowadays, knowledge ethical issues have become more in the limelight. Knowledge has been vappied to science, technology, and policy, leading to ethical issues, particularly in the fields of nuclear physics, biotechnology, and artificial intelligence. The cases of Oppenheimer and Einstein reveal the ethical issues when knowledge may be applied for destruction. Although we move forward in knowledge, we must critically think about its application and see that intellectual development is guided by ethical responsibility.

This chapter now seeks to call forth the moral dimensions of knowledge from various Philosophical schools. Ethics was a means of achieving eudaimonia<sup>1</sup>human flourishing through practice of virtues in Aristotle's thought. Kantian deontological ethics placed obligation before outcome, asking whether knowledge must be pursued without moral restraint. Mill's utilitarianism, by contrast, weighed moral actions by benefit to society, balancing threat and gain from intellectual discovery. These perspectives provide

---

<sup>1</sup> A Greek expression describing human flourishing or living a virtuous life, used by Aristotle.

## **Chapter One *Theoretical and Historical Foundations of the Ethics of Knowledge***

---

critical frameworks for imagining the ethical aspects of knowledge in an era where information abounds, but moral concerns become more and more complex.

In tracing the trajectory of knowledge from ancient speculation to systematic scientific research, we come to better value how intellectual conquests lead to ethical dilemmas. The question is whether we should seek knowledge at any cost, or if there are moral boundaries to the things we wish to know. This chapter provides a foundation for a fuller examination of moral anxiety in later discussion, where the nexus of knowledge, power, and ethics will be discussed in greater detail.

## **Conclusion**

This chapter has established the needed theoretical and historical foundation for examining the ethical aspects of knowledge as made available in *American Prometheus*. From Aristotle's, Immanuel Kant's, and John Stuart Mill's ethical theories, we have learned that knowledge is not morally neutral; it is not detachable from the reasons for its acquisition and the consequences of its use. Aristotle's virtue ethics highlighted the balance between knowledge and human flourishing, Kant's deontology<sup>2</sup> the duty of responsible inquiry, and Mill's utilitarianism the balancing of scientific progress against its cost in human life.

These paradigms indicate that scientific knowledge, particularly in the era of the nuclear, cannot be calibrated solely on intellectual superiority. The chronological evolution of knowledge ranging from the Enlightenment's worship of reason to the tragedies of realization of the 20th century demonstrates how the moral burden of knowledge has become heavier through the ages. The creation of the atomic bomb, and its makers, most notably Oppenheimer, represent a turning point in the ethics of science. The *American Prometheus*<sup>3</sup> chronicles these conflicts to life, depicting a man whose quest for knowledge ultimately confronts the limits of human control and the weight of irreversibility.

---

2 A moral theory, ascribed to Kant, which concerns the morality of action by reference to rules or obligations rather than results.

3 A biography of J. Robert Oppenheimer that examines the ethical and political significance of his contribution to the invention of the atomic bomb.



## **Chapter One *Theoretical and Historical Foundations of the Ethics of Knowledge***

---

This chapter has set up the theoretical foundation for grasping the moral implications of knowledge, and especially so in the context of scientific ambition. By separating knowledge from information, recognizing the ethical gravity of discovery, and basing the analysis in Aristotle's virtue ethics, the chapter sets the stage for a richer reading of Oppenheimer's life.

In the following chapter, this model will be applied to examine how Oppenheimer's life choices exemplify or defy the virtues Aristotle established as key to human flourishing.

Furthermore, by distinguishing knowledge from information, we value the danger of assuming to know what we do not—the very trickery Hawking warned against. True knowledge demands more than facts or information; it demands consideration, moral accountability, and humility.

Throughout the following chapter, these theoretical remarks and historical nuances shall be applied to an actual reading of *American Prometheus*, with attention given to how the narrative development, characterization, and ethical dilemmas reflect an underlying philosophical examination of the ethics of knowledge in the modern world.



## **Chapter Two**

*Ethical conflicts in J.Robert*

*Oppenheimer's Life A Narrative*

*Analysis of American Prometheus*

**Chapter Two *Ethical conflicts in J. Robert Oppenheimer's Life A Narrative Analysis of American Prometheus***

---

**Introduction**

J. Robert Oppenheimer's life is the most morally complicated and nuanced of any scientist in the annals of time. The director of scientific operations for the Manhattan Project, Oppenheimer spearheaded the construction of the atomic bomb a technology that finished off World War II but ushered into human society the breathtakingly profound moral questions surrounding unfettered scientific prowess. His story provokes fundamental questions about the responsibility of scientists, the ethical limits of technological advance, and the tension between mental achievement and moral integrity.

This chapter explores the ethical dilemmas of Oppenheimer's life, in particular through the virtue ethics of Aristotle, one of the major ethical theories that shed light on the moral dilemmas he faced. We begin by situating Oppenheimer's career and life within the broader history of World War II, a time when there were unprecedented scientific advances and a conflict of powers at a global level. We then look at Oppenheimer's early influences and intellectual history, tracing the ways in which his education came to shape his scientific and moral paradigm.

Here is the beating heart of all this: Oppenheimer's contribution to the Manhattan Project a

## **Chapter Two *Ethical conflicts in J.Robert Oppenheimer's Life A Narrative Analysis of American Prometheus***

---

project that shifted the course of history as fully as it left us with an enduring legacy of moral ambiguity. From his postwar reflection, we observe how Oppenheimer's intellectual pursuits came crashing into conflict with his growing moral unease, as well as how his postwar activism and philosophical struggle with the implications of his actions may be understood using the ethical prism of virtue ethics<sup>4</sup>. Lastly, this chapter demonstrates that Oppenheimer's life offers a dramatic case study of the way in which scientific achievement, if divorced from ethical understanding, can have cataclysmic moral consequences.

Through Aristotle's virtue ethics perspective, this chapter tries to elucidate the moral dilemmas confronting Oppenheimer in bringing out the imperatives of synchronizing intellectual ambitions with moral virtues in accomplishing the genuine flourishing of human life. As we observe the tragic trajectory of Oppenheimer's life, we cannot help but be struck by the pertinence even today of such moral questions of scientific acumen and technological refinement in this scientific era.

---

<sup>4</sup> Is a kind of moral philosophy that centers more on the character of the decision maker, and the development of what are called "excellences" or "virtues" of character like courage, justice, and temperance, than on rules and consequences.

**Chapter Two *Ethical conflicts in J.Robert Oppenheimer's Life A Narrative Analysis of American Prometheus***

---

***I HISTORICAL BACK GROUND: the road to war and the Age of Scientific Power***

World War II emerged from a confluence of shattered economies, ruthless expansionist appetites, and diplomatic collapse, decisively pivoting when German forces overran Poland and only later when the United States plunged in, outraged by Pearl Harbor (Encyclopaedia Britannica, n.d.; History.com Editors, 2019). Against this cataclysmic backdrop, the 1938 revelation of nuclear fission, followed by the August 1939 Einstein–Szilard letter, pulled scientific inquiry into the orbit of state sovereignty and destructive purpose, birthing the Manhattan Project (Atomic Heritage Foundation, n.d.)

The outbreak of World War II consequent on from the series of international relation and world affairs and the hostility of the totalitarian powers. The conquers of Poland by Germany .On 1 September 1939 Contributes Britain and France to announce, the beginning of the war in Europe (Britannica).

Concurrently, Japan's imperial ambitions in Asia led to the attack on Pearl Harbor on 7 December 1941, drawing the United States into the conflict (History.com) Betwixt this global confusion, scientists were faced with surpassing ethical dilemmas. During 1938, German scientists Otto Hahn and Fritz Strassmann discovered the new nuclear fission, which meant that the world could make nuclear weapons. Physicists Leo Szilard and Albert

## Chapter Two *Ethical conflicts in J.Robert Oppenheimer's Life A Narrative Analysis of American Prometheus*

---

Einstein responded by announce and answers to President Franklin D. Roosevelt that Nazi Germany would widespread and develop, flourishing an atomic bomb, which drive to the foundations and establishment of the Manhattan Project in 1942 (Atomic heritage 'foundation).

### ➤ *II. Oppenheimer's Early Life and Ethical Formation*

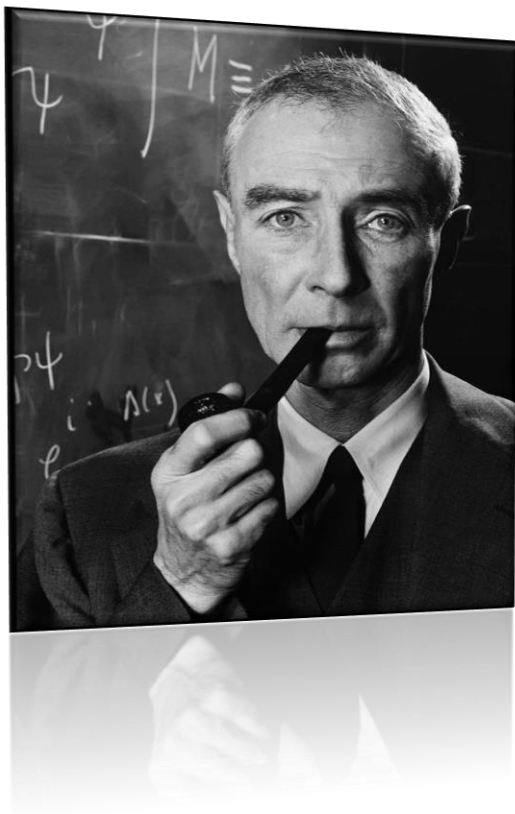


Figure 2J.Robert Oppenheimer by Philippe Halsman

J. Robert Oppenheimer, a theoretical physicist who was born in 1904 exactly in New York City, was appointed the scientific director of the Manhattan Project. His initial education at schools like the Ethical Culture Society School and Harvard University, combined with

## Chapter Two *Ethical conflicts in J. Robert Oppenheimer's Life A Narrative Analysis of American Prometheus*

---

higher education in Europe, shaped his intellectual as well as moral perspective (Bird and Sherwin 32)

J. Robert Oppenheimer who directed the Los Alamos Laboratory from 1943 to 1945, and he was the reason behind of leading the team to built the atomic bomb. His own career was stained by accusation of disloyalty and ended with a government hearing that revoked his security clearance, as well as his advisory role to senior American officials. His scandal was debated in the scientific community quite widely because it involved very high-level political and ethical concerns regarding the participation of scientists in the activities of government (Encyclopaedia Britannica, n.d.)

Oppenheimer's formation—Ethical Culture School, Harvard, and Göttingen—united strict science and broad humanistic reading, from Sanskrit to the Bhagavad Gita (Bird & Sherwin, 2005, pp. 21–40; National Park Service, 2020).

Literary spotlighting: In focusing on his inner life (books, languages, teachers), the biography anticipates a conscience challenged by power that would be ... unprecedented (Bird & Sherwin, 2005, pp. 37–40).

The professional lives of J. Robert Oppenheimer and Albert Einstein are a fertile lens for analyzing the moral responsibility of knowledge in times of crisis. Two of the most powerful scientists of the twentieth century, both grappled with the ethical implications of their intellectual contributions most notably in the field of nuclear physics and the development of

## Chapter Two *Ethical conflicts in J.Robert Oppenheimer's Life A Narrative Analysis of American Prometheus*

---

the atomic bomb (Bird and Sherwin 287). Their biographies show not only success in theoretical science but also a lasting preoccupation with the implications of that success. This chapter explores how each of these men felt and reacted to the weight of knowledge, with a focus on how their own reflections, political positions, and philosophical inclinations reflect larger ethical questions about the role of the intellectual.

Aristotle would see in Oppenheimer's far-ranging humanistic and scientific studies the potential for *phronēsis*, but the life sets us up for a skewing of intellectual genius and ethical basis.

By characterizing, *American Prometheus* builds dramatic irony: Oppenheimer's general knowledge appears as wisdom but also predicts a tragic failure to coordinate knowledge with virtue.

Drawing on Aristotle's virtue ethics, this chapter investigates the character and inner turmoil of both men as they wrestled with the implications of their findings. For Aristotle, virtue is not only a question of action but of character development through habituation and *phronesis* or practical wisdom (Aristotle 1098 a 1520).

Here, Oppenheimer's conflicted role in the Manhattan Project and Einstein's own pacifist convictions later shattered by the threat of Nazi Germany rise above historical fact; they become moral case studies in the virtue or failure of *phronēsis*.

## Chapter Two *Ethical conflicts in J. Robert Oppenheimer's Life A Narrative Analysis of American Prometheus*

---

By close reading of *American Prometheus* and some chosen historical documents, the chapter traces how Oppenheimer's and Einstein's application of scientific knowledge evolved into a struggle with moral unease a conflict between knowing and doing the right thing (Bird and Sherwin 30810). Their journeys chart the complex intertwining of epistemic power and ethical obligation, providing a case study in how knowledge havers are to address the social and human payoffs of what they learn. In doing so, this chapter sets the stage for an extended philosophical investigation of the nature of moral responsibility in pursuit of knowledge.

J. Robert Oppenheimer, a theoretical physicist who was born in 1904 exactly in New York City, was appointed the scientific director of the Manhattan Project. His initial education at schools like the Ethical Culture Society School and Harvard University, combined with higher education in Europe, shaped his intellectual as well as moral perspective (Bird and sherwin 32). Under his command, the Los Alamos Laboratory in New Mexico was where the first atomic bombs were designed and tested, leading to the Trinity test on July 16, 1945 ("Manhattan Project") J. Robert Oppenheimer led the Manhattan Project and made one of the most morally difficult scientific choices of the 20 th century. His private and professional choices, as narrated in *American Prometheus*, can also be understood through

## Chapter Two *Ethical conflicts in J.Robert Oppenheimer's Life A Narrative Analysis of American Prometheus*

---

one of three major ethical frameworks: Aristotle's virtue ethics, Kant's deontology, or Mill's utilitarianism. Oppenheimer's interpretations through the three ethical theories suggest virtue ethics is an ethical framework which shows us how to live well.

Deontology says moral rules and duty must always be followed for happiness. These theories also say the science industry must focus on the truth, but also people should follow the truth.

### **1-Intellectual formation and the Seeds of Moral Dilemma**

Janssen(2024) points out that Nolan mined *American Prometheus* for much of Oppenheimer, thereby grounding the film in a durable biographical framework; historians likely rank it a notch above the crowd of Hollywood retellings. Yet cinema doesn't mimic archive footage; it compresses, amplifies, and redistributes emotional and intellectual textures to serve larger narrative engines. Case in point: Oppenheimer's inner strife and intimate entanglements are rendered with a charged vibrancy, even though the film's edit and score bow to the conventions of dramatic motivic development, not to the rigid measurements of archival fidelity. This differentiation is consequential for your paper: it locally situates Oppenheimer's moral questioning not merely as a past fact, but as a cultural topos that is continually reframed by narrative art.

## Chapter Two *Ethical conflicts in J.Robert Oppenheimer's Life A Narrative Analysis of American Prometheus*

---

Janssen (2024) also accentuates Oppenheimer's odd intellectual bifurcation: he was at once a cutting-edge quantum theorist and a practical commander presiding over the sprawling apparatus of the Los Alamos laboratory.

His 1939 work on quantum tunneling and early black-hole models—co-authored with the student Snyder—already confirms the magnitude of his early gifts.

Appointed as Los Alamos' scientific head, he fused profound theoretical acuity with a singular flair for galvanising differing specialities, a rare amalgam in a discipline fond of solitary scholars.

The article highlights the essentiality of Oppenheimer's tragedy: he had succeeded in developing the atomic bomb but was haunted by the destruction it caused. ( Janssen ,2024) Janssen mentions the infamous Trinity test wisecrack "*Now I am become Death...*" as characteristic of his revelation. Oppenheimer opposed the hydrogen bomb during the war, in keeping with his ethical unease, but now he had no political influence.

Janssen (2024) proves that Oppenheimer's legacy is twofold. On the one hand, he is hailed as a genius who hastened the end of WWII. On the other, he is remembered as the "father of the atomic bomb" whose invention unleashed new global threats. Nolan's movie finds this ambivalence Oppenheimer as both Prometheus (giver of fire/knowledge) and fallen hero punished for overreaching. Finally , (2024) Janssen suggests that Oppenheimer's

## Chapter Two *Ethical conflicts in J.Robert Oppenheimer's Life A Narrative Analysis of American Prometheus*

---

conflict is not merely historical—it is reflected in science today. In much the same way that nuclear weapons transformed politics, today's artificial intelligence, biotechnology, and climate technologies pose the same ethics questions: Should everything be known? What are the implications? Oppenheimer's life becomes a case study in the perils of unrestrained innovation.

### *III. Role in the Manhattan Project: Scientific Glory and Moral*



*Ambiguity* Figure 3. J.Robert Oppenheimer, Manhattan Project Director

---

## Chapter Two *Ethical conflicts in J.Robert Oppenheimer's Life A Narrative Analysis of American Prometheus*

---

As scientific director at Los Alamos, Oppenheimer supervised the Trinity test and the bomb program that ended the war and ushered in a new age of man.

Or as a “risk to human survival” (Muller and Bostrom,2005, pp. 256–279, 307–325).

Public victory was combined with private distress: what he would later describe as

“sin,” and a sense of moral responsibility (Bird & Sherwin, 2005, p. 321). Given the title of director of scientific research for the Manhattan Project, Oppenheimer becomes the man synonymous with one of history’s most impactful scientific discoveries. He was in charge of building the first atomic bomb at Los Alamos. He has been seen as a symbol of the power of human knowledge. World War II ended in August 1945. The bombings of Hiroshima and Nagasaki introduced an era of destruction. After that, he excelled in voicing his sorrows without any public or private limitation.

*American Prometheus* interprets these wartime episodes not simply as events in history but as the backdrop of Oppenheimer’s moral tragedy in which every scientific progress is a harbinger of moral fall out.

The silence that hovers in the wake of Trinity and the desert imagery of *American Prometheus* echo Greek tragedy themes, underscoring the gulf between scientific achievement and moral failure. In Aristotelian terms, Oppenheimer embodies the danger of arête (intellectual greatness) without virtue, for his greatness caused destruction rather than thriving. Following

## **Chapter Two *Ethical conflicts in J.Robert Oppenheimer's Life A Narrative Analysis of American Prometheus***

---

Aristotle, this account already enables us to examine the extent to which knowledge will facilitate human flourishing or result in a moral catastrophe.

This portion now pivots to the moral dilemma that defined Oppenheimer's life, the insistent clash between forward-looking scientific ambition and responsibility.

### ***III. 1-Oppenheimer's Tragic Conflict : From Scientific Arete to Ethical Anxiety***

This ethical problem comes into sharper perspective, however, when examined within Aristotle's vice ethics model. The Aristotelian task of cultivating both moral and intellectual virtue confirms the idea that reason must be incarnated in habits of character that are intentionally and diligently nurtured if it is to reach its highest potential.

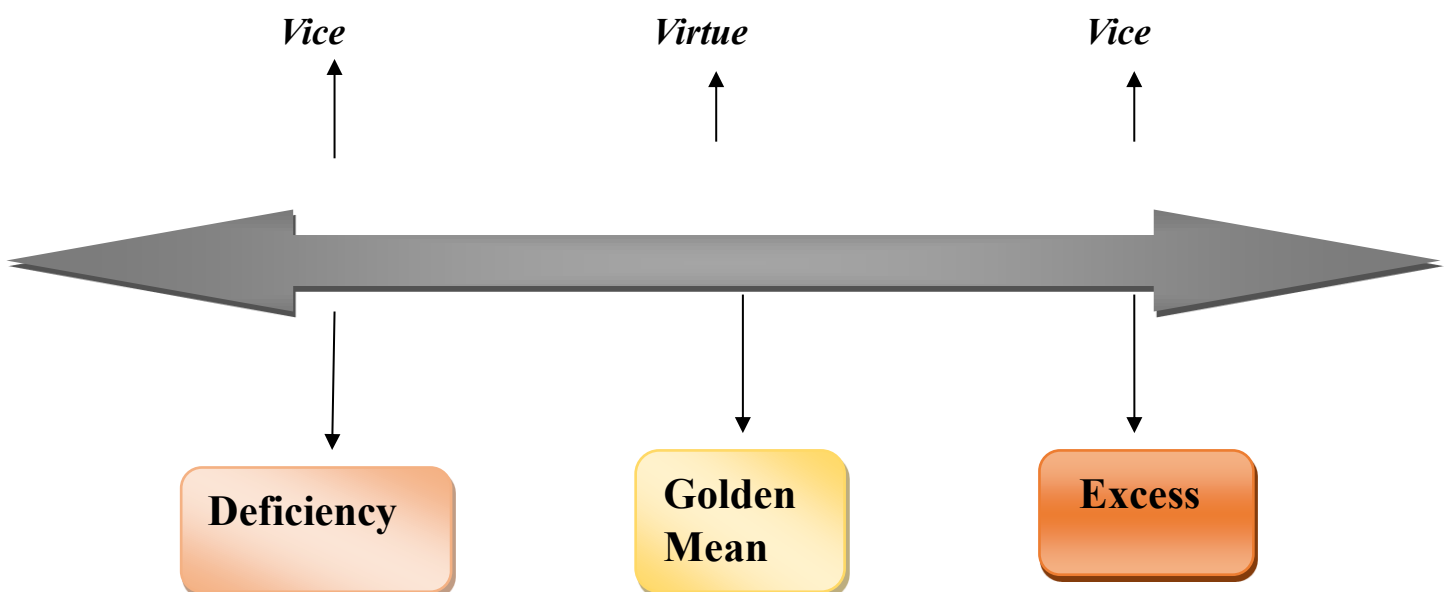
Oppenheimer, by contrast, operated within a political apparatus that prized end rather than justification, a pure, calculating reason that measured its satisfaction in terms of weapons, solutions, and quantities.. As director of the Institute, he possessed the heroic mind capable of leaping across abstract domains, yet his practical imagination revealed little capacity to envisage an unweaponized frontier of physics, nor to shield scientific inquiry from the acquisitive grip of the state. The allure of excellence—brilliant deductions, elegant syntheses, rapid mastery of complex theories seduced him precisely where the conscientious norm of reflective examination should have prevailed. His ethical discourse, though present, was eclipsed by the hum of the mass spectrometer in the desert bunker. In the climate of the 1940s, intellectual labor was increasingly severed from moral supervision, persuading Oppenheimer that justification resided in results themselves: data that were irreversible, dazzling, and final.

## Chapter Two *Ethical conflicts in J.Robert Oppenheimer's Life A Narrative Analysis of American Prometheus*

---

When the algebra of his theoretical work materialized into atomic reality, however, that scientific finality reverberated as radioactive dusk. Here his tragedy becomes clear: in failing to complement his genius with the moral virtues necessary for eudaimonia, Oppenheimer exemplified the danger Aristotle warns against. His subsequent protest against the hydrogen bomb illustrates an attempt to retrieve lost *phronēsis*, but as Thorpe (2004) observes, his political isolation revealed the limits of ethical correction once scientific action had already outstripped virtue.

Virtue as the midpoint between two extremes, which Aristotle called vices, virtue is the just right amount the sweet spot between the extreme of deficiency, and the sweet spot is known as the golden mean.



## Chapter Two *Ethical conflicts in J.Robert Oppenheimer's Life A Narrative Analysis of American Prometheus*

---

Aristotle's concept of the Golden Mean the balance between extremes explains the ethical distinction between Einstein and Oppenheimer. As already stated, virtue entails avoiding deficiency on one side and excess on the other under the guidance of *phronēsis*, or practical wisdom (Aristotle, 1999). Oppenheimer's cognitive achievements embody excellence, but lacking the reign of wisdom, they diverged towards excess. His pursuit of knowledge was not governed by virtue, bringing catastrophic consequences and ethical anguish." Einstein, conversely, was a more Aristotelian balance. He was aware of the dangers of unbricated science and always preached peace and justice, practicing his *phronēsis*. This application of the "Golden Mean" shows us that Oppenheimer's tragedy lay not in the lack of wisdom, but of balance, while Einstein's success rests on balancing knowledge and virtue.

### **III. 2 Einstein and Oppenheimer: Divergent Paths of Virtue**

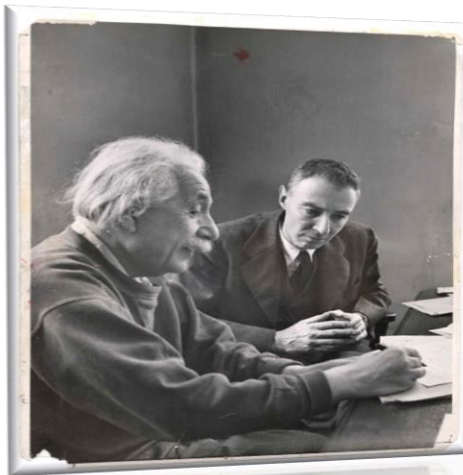


Figure 4. Robert Oppenheimer and Albert Einstein

## **Chapter Two *Ethical conflicts in J.Robert Oppenheimer's Life A Narrative Analysis of American Prometheus***

---

Whereas Oppenheimer represents the tragedy of intellectual( aretē) divorced from moral virtue, Einstein represents the Aristotelian possibility of coupling wisdom with moral courage. Einstein's existence was founded upon a deep humanist ethos that placed peace, justice, and intellectual freedom above all else (Isaacson,2007). Whereas Oppenheimer, to use Thorpe's (2004) phrase, became entangled in a political machinery that worshipped results, Einstein resisted such co-option, standing on moral duty rather than scientific achievement.(Bird & Sherwin ,2005).

Their Princeton Institute for Advanced Study association conveyed this divergence: Oppenheimer, reserved and compromised, viewed Einstein plans for world government and nuclear disarmament as unworkable, while Einstein considered Oppenheimer a tragic figure, too enamored with state power to speak freely( Bird & Sherwin ,2005;Isaacson ,2007)

In Aristotelian terms, Einstein embodied phronēsis in combining his intellectual genius with the virtues of courage (andreia) and justice (dikaiosynē), while Oppenheimer's failure to pair these virtues made his genius morally incomplete. Their juxtaposition refers to Aristotle's teaching that true flourishing (eudaimonia) lies beyond knowledge but in moral habits that orient knowledge toward the good (Aristotle,trans.1999).

**Chapter Two *Ethical conflicts in J. Robert Oppenheimer's Life A Narrative Analysis of American Prometheus***

---

***IV. Interpreting Oppenheimer through ethical framework:***

Aristotle (anchor). Interpreting virtue ethics, Oppenheimer is an instance of superior *techne* and intellectual variability, but has insufficient *phronēsis* (practical wisdom, practical rational) to fit means to human good (*eudaimonia*) (Aristotle, trans. 2009, 1106b–1109a). His recent insistence on control of nuclear weapons comes across as an after-the-fact effort to heal personality with improved sense of practical judgment (Bird & Sherwin, 2005, pp. 381–385). Literary note : Repetitive motifs — silence after Trinity, immense desert vistas — serve as contradictions without ethics, emphasizing knowledge divorced from virtue.

Kant (contrast).

On a deontological test, the rule “use weapons that kill civilians to achieve peace” lacks universalization and violates the law of humanity (Kant, trans. 2012, pp. 41–49). Memoranda in the archives and hearings replicated in the biography relegated duty conflicts to the background—national security vs. Responsibility to human beings (Bird & Sherwin, 2005, pp. 421–446).

Mill (contrast). Utilitarian rationales (ending the war, saving lives) are challenged by ledger weights of agony, radiation, and an arms race (Mill, 2001/1863, pp. 17–22).

Bird and Sherwin cast this calculus in rival testimonies, leaving net utility morally uncertain (2005, pp. 330–338).

Through the viewpoint of Aristotle's virtue ethics, we can carefully analyze how J. Robert

## Chapter Two *Ethical conflicts in J.Robert Oppenheimer's Life A Narrative Analysis of American Prometheus*

---

Oppenheimer represents a tragic figure a man of extraordinary intellect whose pursuit of knowledge, though brilliant, ultimately conflicted with the moral virtues necessary for a flourishing life (eudaimonia<sup>5</sup>). Aristotle emphasized that true excellence lies not only in intellectual achievement but also in living a virtuous and ethically guided life (Aristotle 1098 a 1618).

Now, the biography itself turns into a moral fable: Oppenheimer a Prometheus chastened for overreaching, Einstein the embodiment of phronēsis in uniting intellect with justice and courage.

This contrast serves to underscore Aristotle's claim that all true knowledge must ever be directed to the good life.

Oppenheimer's profound scientific contributions, as chronicled in *American Prometheus*, were shadowed by his later moral anxiety and regret over the use of nuclear power, illustrating a failure to align knowledge with ethical purpose (Bird and Sherwin 340). His story demonstrates how knowledge, when divorced from virtue, risks undermining the very flourishing it aims to promote it.

The conclusion of World War II and the aftermath of the bombings of Hiroshima and

---

<sup>5</sup> In Aristotelian ethics, refers to the highest human good or "flourishing," which is not a matter of mere wealth, pleasure, or honor, but, rather, of living one's best life in the context of others.

## Chapter Two *Ethical conflicts in J. Robert Oppenheimer's Life A Narrative Analysis of American Prometheus*

---

Nagasaki triggered a fervent period of self-reflection for J. Robert Oppenheimer. His growing unease with the power he had unleashed is what can be termed scientific anxiety the intense moral concern about the consequences of technological innovations in the absence of a corresponding ethical regimen.

Moral unease in the Aristotelian framework is a result of an interior sense that one's actions did not succeed in their purpose to live a life of flourishing and moral virtue, a life of eudaimonia. The remorse of Oppenheimer after the Trinity test and the use of the atomic bomb illustrates an extreme dissonance between his intellectual abilities and the virtues that Aristotle believed would result in authentic human flourishing (Aristotle 1098 a 1618). His now infamous words, "*Now I am become Death, the destroyer of worlds,*" after the first atomic bomb explosion (Bird and Sherwin 321), demonstrate a sharp sense of awareness that knowledge alone does not guarantee moral goodness.

Throughout *American Prometheus*, Oppenheimer is portrayed as becoming increasingly isolated, politically shunned, and internally conflicted. His demands for international control of nuclear weapons and against the building of the hydrogen bomb were attempts to make his activities more consistent with a more virtuous and responsible use of knowledge (Bird and Sherwin 381385). Virtue ethics would read this later activism as a bid to reclaim phronésis the practical wisdom that Aristotle considered required for ethical decision

## **Chapter Two *Ethical conflicts in J.Robert Oppenheimer's Life A Narrative Analysis of American Prometheus***

---

making. Yet the lasting picture of Oppenheimer is that of the tragic figure: an intellectual human being whose intellect surpassed his moral preparedness for the consequences of his endeavors. His post war guilt is a testament to the risks Aristotle warned against when the cultivation of the mind is separated from the cultivation of character. Virtue less knowledge, Aristotle argues, is not only insufficient but also dangerous (Aristotle 1144 a 710).

Oppenheimer's life is thus a rich modern demonstration of Aristotle's ethical insight:

the ultimate measure of knowledge is not merely what it does, but how it contributes to the flourishing of human life.

Scientific Anxiety<sup>6</sup> refers to the emotional and ethical tension scientists experience when they realize that their discoveries can have unintended or ethically undesirable consequences, especially when scientific ability outruns the ability for ethical foresight.

---

<sup>6</sup> The emotional and ethical stress scientists feel upon realizing their discoveries can unintentionally cause harm or negatively effect society Knowledge having surpassed the ability of ethics to foresee and manage its use.

## **Chapter Two *Ethical conflicts in J.Robert Oppenheimer's Life A Narrative Analysis of American Prometheus***

---

### ***Conclusion***

J. Robert Oppenheimer's life and legacy, as portrayed in *American Prometheus*, offer a striking case study of the moral complexities surrounding scientific innovation. Viewed through the lens of Aristotle's virtue ethics, Oppenheimer emerges not merely as a scientific genius but as a tragic figure whose intellectual pursuits ultimately conflicted with the ethical demands of a flourishing human life (eudaimonia).

Aristotle instructed that areté<sup>7</sup>(excellence) involves not just technical skill and intellect but also character and phronésis (practical wisdom) (Aristotle 1140b5–1140b30).

Oppenheimer's initial education and philosophical inclinations demonstrated these virtues, but the application of his knowledge in creating the atomic bomb exhibited a disconnect between intellectual brilliance and moral control. His postwar guilt and demands for nuclear disarmament are an attempt to reestablish ethical responsibility, but they are also a reflection of the long-term consequences of failing to unite knowledge with virtue in the first place (Bird and Sherwin 382385).

---

<sup>7</sup> Is the ancient Greek word used to denote the terms "excellence" or "virtue." It describes a person's capability to function effectively at their role. In human terms, the moral and intellectual virtues relating to one's achievements in life, one's potential, is what Areté describes.

## **Chapter Two *Ethical conflicts in J.Robert Oppenheimer's Life A Narrative Analysis of American Prometheus***

---

Scientific angst, as mirrored in Oppenheimer's questioning, underscores an essential Aristotelian reserve: the seeking of knowledge, when it is dissociated from the seeking of the good, does not lead to human flourishing but to moral calamity. Oppenheimer's story recalls to mind that the final aim of intellectual achievement must be to serve life, justice, and the common good and not merely to augment human power.

In direct parallel with Chapter One, the case study establishes that knowledge without virtue becomes destructive power. Einstein, however, demonstrates how, guided by virtue, knowledge serves for human flourishing (eudaimonia).

Therefore, the ethical dilemmas confronting Oppenheimer are not historical anomalies; they are pertinent today as well as science unleashes new forces without always conferring wisdom. Aristotle's ethics of virtue continues to be a vital model in terms of how knowledge has to be guided by character, modesty, and the moral imperative to the common good of humankind.



***General Conclusion***

## General Conclusion

---

American Prometheus portrays J. Robert Oppenheimer and Albert Einstein's lives and legacies, which illustrates the former's ethical implications of knowledge technology's landscape. This work employs virtue ethics, particularly Aristotle's, to demonstrate that knowledge is never amoral and the act of knowing is in itself, moral. Oppenheimer's tragic life exemplifies the perils of morally unbridled exceptional insight, and Einstein's life is a testament to the ability to conduct scientific exploration with ethical commitment.

The historical trajectory of knowledge, beginning with the classical age, moving through the medieval period of theology, and arriving at modern scientific rationalism, illustrates that knowledge is purposed differently in each age. However, the persistent inquiry through all of these is, does knowledge aid in the advancement of humanity or its detriment? This research demonstrates the answer is not knowledge itself, but rather the moral principles guiding its pursuit that shape the outcome.

Knowledge technology is itself amoral, but its ethical value is dictated by the moral character of its practitioners. Oppenheimer and Einstein are two different types of individuals: the former, a political authority figure; the latter, a kind humanist. The stories demonstrate that while knowledge is crucial to advancement, it must be paired with responsibility. Oppenheimer and Einstein are two different types of individuals: the former, a political authority figure; the latter, a kind humanist. The stories demonstrate that while knowledge is crucial to advancement, it must be paired with responsibility.

## Works Cited

Abbas, J. (2010). The use of grounded theory in library and information science research.

*Library & Information Science Research*, 32(2), 101–105.

<https://doi.org/10.1016/j.lisr.2009.12.002>

Aristotle. (1999). *Nicomachean ethics* (T. Irwin, Trans., 2nd ed.). Hackett Publishing

Company.

Atomic Heritage Foundation. (n.d.). *The Manhattan Project*. Retrieved from

<https://ahf.nuclearmuseum.org>

Barnes, J. (2000). *Aristotle: A very short introduction*. Oxford University Press.

Bates, M. J. (2005). Information and knowledge: An evolutionary framework for information science. *Information Research*, 10(4), 205–214.

Bird, K., & Sherwin, M. J. (2005). *American Prometheus: The triumph and tragedy of J. Robert Oppenheimer*. Alfred A. Knopf.

Bloor, D. (1991). *Knowledge and social imagery* (2nd ed.). University of Chicago Press.

Duignan, B., & Encyclopaedia Britannica Editors. (2025). *The Enlightenment*. In *Encyclopaedia Britannica*. Retrieved from

<https://www.britannica.com>

Encyclopaedia Britannica. (n.d.). *World War II*. In *Encyclopaedia Britannica*. Retrieved from

<https://www.britannica.com>

History.com Editors. (2019, October 29). *World War II*. *History*.

<https://www.history.com/topics/world-war-ii/world-war-ii-history>

Isaacson, W. (2007). *Einstein: His life and universe*. Simon & Schuster.

Janssen, D. (2024). Oppenheimer's legacy: Science, ethics, and narrative memory. *Historical Studies in the Natural Sciences*, 54(2), 210–235.

Kant, I. (2012). *Groundwork for the metaphysics of morals* (M. Gregor, Trans.). Cambridge University Press. (Original work published 1785)

Mill, J. S. (1998). *Utilitarianism* (R. Crisp, Ed.). Oxford University Press. (Original work published 1863)

Muller, H. J., & Bostrom, N. (2005). Existential risks: Analyzing human extinction scenarios.

*Journal of Evolution and Technology*, 9(1), 256–325.

National Park Service. (2020). *J. Robert Oppenheimer and the Manhattan Project*. U.S. Department of the Interior. Retrieved from

<https://www.nps.gov>

Resnik, D. B. (1998). *The ethics of science: An introduction*. Routledge.

Steneck, N. H. (2007). *ORI introduction to the responsible conduct of research* (Rev. ed.). Office of Research Integrity.

Thorpe, C. (2004). *Oppenheimer: Science, politics and the atomic bomb*. Icon Books.

Velasquez, M., Andre, C., Shanks, T., & Meyer, M. J. (2010). What is ethics? *Issues in Ethics*, 1(1). Santa Clara University, Markkula Center for Applied Ethics.

<https://www.scu.edu/ethics>