Lecture 1: The History of IT Ethics
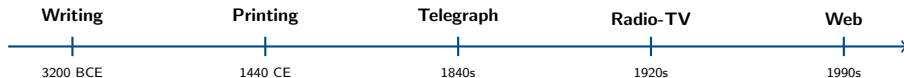## IT Ethics

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What is Information Technology?

Definition: Technologies for **creating**, **storing**, **transmitting**, and **processing** information.

Key Insight

Information technology is **ancient**—not just computers!

Writing	Printing	Telegraph	Radio-TV	Web
3200 BCE	1440 CE	1840s	1920s	1990s

? Discussion Question

What's the oldest information technology you can think of?

What is Normative Ethics?

Definition: The branch of philosophy concerned with how we **ought** to act.

Three Branches of Ethics

- **Descriptive Ethics:** What people *do* believe about right and wrong
- **Normative Ethics:** What people *should* believe about right and wrong
- **Metaethics:** The nature of morality itself (e.g., Are moral facts real?)

Key Insight

Ethics is also **ancient**—as old as philosophy itself!

? Discussion Question

When we say something is "unethical," what do we mean?

The Five IT Revolutions

Roadmap for Today's Lecture

We will examine five major information technology revolutions, each with its own debates, promises, and unforeseen consequences.

#	Revolution	Approximate Date	Key Thinkers
1	Writing	~3200 BCE	Socrates, Plato
2	Printing Press	~1440 CE	Luther, Erasmus
3	Distance Communication	~1840s	Mill, Marx
4	Mass Media	~1920s	Orwell, Arendt
5	The Web	~1990s	Current debates

Central Theme

Each revolution promised liberation—and each enabled new forms of control.

Revolution 1: A Brief History of Writing

Key Developments

- **Cuneiform** in Mesopotamia ($\sim$3200 BCE)
- **Egyptian hieroglyphics** ($\sim$3100 BCE)
- **Phoenician alphabet** ($\sim$1050 BCE)
- **Greek alphabet** ($\sim$800 BCE)

Writing as Memory Technology

Writing **externalizes** information—storing it outside the human mind for the first time.

Memory in minds

Oral Culture

Writing invented

Written Culture

Memory on tablets
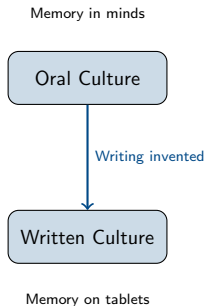
? Discussion Question

What might be **lost** when a culture shifts from oral tradition to written records?

Who Were Socrates and Plato?

Socrates (c. 470–399 BCE)

- Athenian philosopher; wrote **nothing**
- Taught through **dialogue** and questioning
- The "**Socratic method**": Learn by examining your own beliefs
- Executed for "corrupting the youth"
- We know him only through others' writings

Plato (c. 428–348 BCE)

- Socrates's most famous student
- Founded the **Academy** in Athens
- Wrote **dialogues** featuring Socrates
- Key works: *Republic*, *Phaedrus*, *Apology*
- Preserved Socrates's ideas *in writing*

The Central Irony

Socrates distrusted writing—but we only know this **because Plato wrote it down**. Would Socrates have approved of Plato's project?

# Socrates and Plato's Worries About Writing

The Irony

Socrates never wrote anything down—yet we know his views through **Plato's** written dialogues.

Plato's *Phaedrus* (c. 370 BCE)

Socrates tells the **myth of Theuth and Thamus**:

- **Theuth**: Egyptian god who invents writing
- **Thamus**: King who must judge the invention
- Theuth claims writing will make people "wiser"
- Thamus disagrees…

Inventor (Optimist)

Theuth

presents

Writing
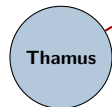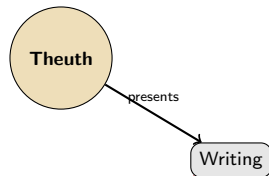
judges

Thamus

Judge (Skeptic)

Quote: Plato's *Phaedrus* on Writing

" Plato, *Phaedrus*, 275a-b (Fowler trans.)

Context: King Thamus responds to Theuth's claim that writing will improve memory and wisdom:

"For this invention will produce **forgetfulness** *in the minds of those who learn to use it, because they will not practice their memory. Their trust in writing, produced by external characters which are no part of themselves, will discourage the use of their own memory within them.*

You have invented an elixir not of **memory**, *but of* **reminding***; and you offer your pupils the* **appearance of wisdom**, *not true wisdom, for they will read many things without instruction and will therefore seem to know many things, when they are for the most part ignorant and hard to get along with, since they are not wise, but only* **appear** *wise."*

⋆ Key Distinctions

Memory (internal) vs. **Reminding** (external) — **True wisdom** vs. **Appearance of wisdom**

Socrates's Argument Against Writing

▷ Argument in Standard Form

1. True knowledge requires **active engagement**, dialogue, and the ability to respond to questions.
2. Writing **cannot respond** to questions or adapt to its audience.
3. Writing therefore creates the **appearance of wisdom** without its reality.
∴ Writing is **inferior** to living discourse for producing genuine understanding.

? Discussion Question

Is this argument **sound**? What might Socrates be missing?

The Paradox

We only know Socrates's anti-writing argument *because Plato wrote it down*!

Social Consequences of Writing

+ Benefits

- **Law codes** (Hammurabi, Torah)
- **Historical records** and memory
- **Literature** and poetry
- **Religious texts** preserved
- **Scholarship** across generations
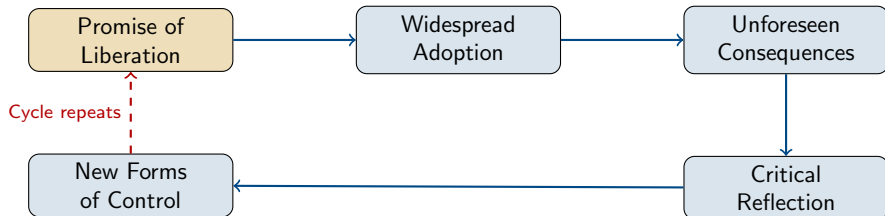- **Contracts** and commerce

– Harms

- **Imperial administration** and control
- **Social stratification**: literate elite vs. illiterate masses
- **Loss of oral traditions**
- **Bureaucratic power** over individuals
- **Propaganda** becomes possible

Key Insight

The same technology that enables law and literature also enables empire and control.

The Pattern Emerges

```
Promise of        →   Widespread        →   Unforeseen
Liberation            Adoption              Consequences
                                                │
Cycle repeats                                   ↓
New Forms         ←   Critical    ←
of Control            Reflection
```

Recurring Themes

- New IT **promises liberation** and democratization
- Critics warn of **unintended consequences**
- **Both** turn out to be partially right
- The technology **serves whoever controls it**

Revolution 2: A Brief History of Printing

Key Developments

- **Chinese woodblock printing** (9th century CE)
- **Gutenberg's movable type** ($\sim$1440, Mainz, Germany)
- **Rapid spread** across Europe: Venice, Paris, London
- **Economics**: Cost of a book drops dramatically

Scale of Change

Before printing: A single book might cost as much as a **house**.
After printing: Books become affordable to the middle class.

? Discussion Question

The printing press made it possible to spread ideas rapidly and widely. Can you think of situations where that might be **dangerous**?

Johannes Gutenberg (c. 1400–1468)

- German blacksmith and inventor
- Developed **movable type** ($\sim$1440)
- Key innovations: metal alloy type, oil-based ink, wooden press adapted from wine presses
- **Gutenberg Bible** (1455): First major book printed in Europe
- Died in relative obscurity
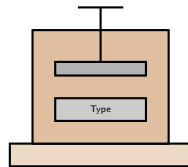
Printing Press

The Impact

By 1500: $\sim$20 million books printed in Europe (vs. a few thousand manuscripts before)

Luther vs. Erasmus: Revolution vs. Reform

Martin Luther (1483–1546)

- Used the press to spread **radical reformation**
- 95 Theses (1517) spread across Germany in **weeks**
- German Bible becomes a **bestseller**
- Saw printing as **providential**

Erasmus of Rotterdam (1466–1536)

- Advocated **gradual reform** through scholarship
- Worried about **unlearned masses** reading complex texts
- Same technology, **different vision** of change

Radical   Reform   **Gradual**

●   ●
Luther   **Erasmus**

Key Question

Same technology, different visions—who gets to decide how it's used?

Quote: Martin Luther on Printing

" Martin Luther on the Printing Press

Context: Luther was among the first to recognize printing's transformative potential. His 95 Theses (1517) spread across Germany in weeks. His German Bible became a bestseller. For Luther, this was providential—God's plan unfolding through technology.

"The art of book printing is the **last and greatest gift** *because it is through this that the question of the true religion will become known to the* **entire world**—*to the very ends of the earth and in all languages—in accordance with God's will. It is the* **inextinguishable flame** *of the world."*

—Martin Luther, as quoted in Otto Clemen, *Die lutherische Reformation und der Buchdruck*

⋆ The Tension

Luther sees printing as **divinely ordained** for spreading truth. But what happens when others use the same press to spread what Luther would call **error**? Luther himself wrote a highly polemical "On the Jews and Their Lies" later in life, which was cited by Nazis to justify anti-Semitic policies.

The Erasmian Counterargument

▷ Argument in Standard Form

1. Rapid, uncontrolled spread of ideas leads to **misunderstanding and conflict**.
2. Complex theological and philosophical texts require **learned interpretation**.
3. The printing press enables **unlearned masses** to access such texts without guidance.
∴ Printing requires **responsible gatekeeping** and scholarly mediation.

? Discussion Question

Who gets to be the **gatekeeper**? And who decides?

The Dilemma

Both Luther and Erasmus have a point—but their positions are in tension. Is there a middle ground?

Social Consequences of Printing: The Good

+ Benefits of the Printing Revolution

- **Scientific Revolution**: Sharing of data, replication of experiments, cumulative knowledge
- **Mass literacy campaigns**: Reading becomes a widespread skill
- **Vernacular literature**: National languages emerge (Dante, Shakespeare, Luther's German)
- **Religious diversity**: Individual conscience, Protestant Reformation
- **Philosophical treatises** widely available (Enlightenment becomes possible)
- **Standardization**: Spelling, grammar, shared reference texts

The Promise Fulfilled

Printing *did* democratize knowledge and enable new forms of intellectual community.

Social Consequences of Printing: The Bad

– Dark Side of the Printing Revolution

- **Malleus Maleficarum** (1487): The witch-hunting manual becomes a bestseller
- **Anti-Semitic pamphlets**: Pogroms spread with printed propaganda (e.g., Luther's later writings)
- **Religious wars**: Thirty Years' War (1618–1648) kills $\sim$8 million
- **Propaganda and polarization**: Pamphleteering as political warfare
- **State power consolidated**: Printed laws, surveillance records, bureaucracy

? Discussion Question

Does the printing press bear **responsibility** for the witch trials? Or is it just a tool?

The Pattern Repeats

The same technology that enables the Scientific Revolution also enables mass propaganda.

The Pattern Repeats

	Writing	**Printing**
Promise	Preserve knowledge	Democratize knowledge
Optimist	Theuth	Luther
Pessimist	Thamus/Socrates	Erasmus
Benefits	Law, literature, scholarship	Science, literacy, Enlightenment
Harms	Empire, bureaucracy	Religious war, propaganda
Key Question	Who controls access?	Who controls the press?

Emerging Insight

The technology **amplifies human intentions**—both good and bad. The question is always: **Who controls it, and for what ends?**

Revolution 3: The Technologies of the Long 19th Century

Key Innovations

- **Telegraph** (1840s)—"The Victorian Internet"
- **Telephone** (1876)—Voice across distance
- **Undersea cables**—Connecting continents
- **Postal systems and railroads**—Physical distribution at scale
- **Photography and recorded sound**—New forms of documentation

The Optimistic 19th Century

Many believed these technologies would **unite humanity** and **end war** through better communication.

? Discussion Question

The telegraph promised to unite humanity and end war. Why might people **keep believing this** about new technologies?

The Telegraph: "The Victorian Internet"

How It Worked

- **Morse code**: Letters encoded as electrical pulses (dots and dashes)
- Messages sent through **copper wires**
- Required **trained operators** at each end
- First message (1844): "What hath God wrought!"

Key Milestones

- **1858**: First transatlantic cable (failed after weeks)
- **1866**: Permanent transatlantic connection
- **1870s**: Global network connects continents

The Hype

"The telegraph will unite all nations... Wars will cease to exist... The reign of peace will begin."

—Common 19th-century predictions

Sound Familiar?

Compare to claims about the internet "democratizing" information and "connecting" the world.

Who Were Mill and Marx?

John Stuart Mill (1806–1873)

- British philosopher and economist
- Child prodigy; educated by his father
- Member of Parliament (1865–68)
- Champion of **individual liberty**
- Early advocate for **women's rights**
- Key work: *On Liberty* (1859)

Karl Marx (1818–1883)

- German philosopher and economist
- Exiled from Germany, France, Belgium
- Lived in poverty in **London**
- Studied in British Museum library
- Founded **communist theory**
- Key works: *Communist Manifesto*, *Das Kapital*

Why Their Debate Matters

Mill and Marx offer fundamentally different analyses of **technology and power** that still shape debates today: Is technology neutral, or does it serve whoever owns it?

Mill vs. Marx: Liberal vs. Radical Visions

John Stuart Mill (1806–1873)

- Technology enables **individual liberty**
- "Marketplace of ideas"
- Truth wins through **free competition**
- Technology is a **neutral tool**

Karl Marx (1818–1883)

- Technology **serves owners**
- "Ruling ideas = ideas of rulers"
- Liberation requires **changing ownership**
- Technology is **shaped by power**

Same technology, different analyses

Mill: Technology is neutral ←——————→ **Marx**: Technology reflects power

Quote: John Stuart Mill, *On Liberty* (1859)

" John Stuart Mill, *On Liberty*, Chapter 2

Context: Mill argues for absolute freedom of expression, claiming that silencing any opinion—even a false one—harms everyone.

"If all mankind minus one were of one opinion, and only one person were of the contrary opinion, mankind would be **no more justified in silencing that one person**, *than he, if he had the power, would be justified in silencing mankind.*

But the **peculiar evil** *of silencing the expression of an opinion is, that it is robbing the human race; posterity as well as the existing generation; those who dissent from the opinion, still more than those who hold it. If the opinion is right, they are deprived of the opportunity of exchanging error for truth: if wrong, they lose, what is almost as great a benefit, the clearer perception and livelier impression of truth, produced by its* **collision with error**."

⋆ The Assumption

Mill assumes a "marketplace of ideas" where truth wins out. What conditions must hold for this to work?

Marx's Counterargument

▷ Argument in Standard Form

1. Those who **control the means of communication** control the dominant ideas in society.
2. Under capitalism, the **ruling class** controls the means of communication.
3. Therefore, "free" communication under capitalism primarily **serves ruling-class interests**.

∴ Genuine free communication requires **revolutionary change** in the ownership of communication technologies.

? Discussion Question

Is Marx right that whoever **owns the technology** controls the message? Can you think of counterexamples?

The Challenge to Mill

If the "marketplace" is rigged, can truth really win through "free competition"?

Social Consequences of Distance Communication

+ Benefits

- Coordination of **reform and labor movements**
- **Investigative journalism**
- **Scientific collaboration** across borders
- **Family connection** across vast distances
- Commercial efficiency

– Harms

- **Colonialism** and imperial coordination
- **Surveillance networks**
- Market manipulation and **speculation**
- Sensationalist **"yellow journalism"**
- **Cultural imperialism**

The Pattern Continues

The telegraph and telephone that connected families also coordinated empires.

Revolution 4: The Rise of Radio and Television

Key Developments

- **Radio broadcasting** emerges in 1920s
- **Television** becomes dominant in 1950s
- **Structural shift**: Passive consumption, one-to-many broadcast model
- **Limited spectrum**: Corporate and state control
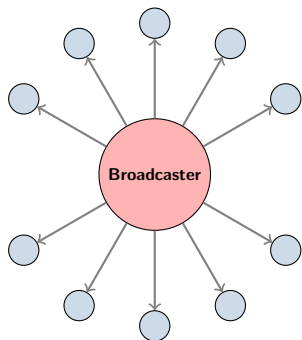
Who Were Orwell and Arendt?

George Orwell (1903–1950)

- Born Eric Arthur Blair in India
- British novelist, essayist, journalist
- Fought in **Spanish Civil War** (1936)
- Witnessed **Stalinist purges** firsthand
- Works: *Animal Farm*, *1984*
- Died of tuberculosis at 46

Hannah Arendt (1906–1975)

- German-Jewish philosopher
- **Fled Nazi Germany** (1933)
- Stateless refugee for 18 years
- Covered **Eichmann trial** (1961)
- Works: *Origins of Totalitarianism*, *Eichmann in Jerusalem*
- Coined "**banality of evil**"

Why Their Perspective Matters

Both **personally witnessed** the rise of totalitarianism. Their analyses come from **lived experience**, not just theory.

George Orwell's Warning

George Orwell (1903–1950)

- **1984** (1949): Dystopian novel about totalitarian media control
- The **telescreen**: Watches you while you watch it
- **Propaganda slogans**: "War is Peace, Freedom is Slavery, Ignorance is Strength"
- **Doublethink**: Holding two contradictory beliefs simultaneously

Orwell's Central Concern

A state **monopoly on information** makes **reality itself malleable**. If the Party controls all records, truth becomes whatever the Party says it is.

Historical Context

Orwell wrote *1984* in 1948, having witnessed the rise of Nazi Germany and Stalinist Russia—both masters of propaganda.

Quote: George Orwell, *1984*

" George Orwell, *Nineteen Eighty-Four*, Book 1, Chapter 7

Context: Winston Smith works at the Ministry of Truth, rewriting historical records. Here he reflects on the Party's ultimate demand—not just obedience, but the surrender of one's own perceptions.

"The Party told you to **reject the evidence of your eyes and ears**. *It was their final, most essential command. His heart sank as he thought of the enormous power arrayed against him, the ease with which any Party intellectual would overthrow him in debate, the subtle arguments which he would not be able to understand, much less answer.*

And yet he was in the right! They were wrong and he was right. **The obvious, the silly, and the true had got to be defended. Truisms are true, hold on to that!***"*

⋆ The Ultimate Goal

Not just to make you believe lies, but to **destroy your capacity to distinguish truth from falsehood**.

Hannah Arendt on Mass Society

Hannah Arendt (1906–1975)

- **The Origins of Totalitarianism** (1951)
- Analyzed how totalitarian movements gained power
- Key insight: The precondition wasn't **ideology** but **loneliness**
- Breakdown of social bonds leaves individuals vulnerable

" Hannah Arendt, *The Origins of Totalitarianism*, Chapter 13

"What prepares men for totalitarian domination in the non-totalitarian world is the fact that **loneliness**, *once a borderline experience usually suffered in certain marginal social conditions like old age, has become an* **everyday experience** *of the ever-growing masses of our century."*

⋆ The Insight

Mass media doesn't just spread propaganda—it helps create the **atomized, isolated individuals** who crave belonging so desperately that they'll join movements promising meaning.

Arendt's Analysis of Propaganda

▷ Argument in Standard Form

1. Mass society produces **isolated, "atomized" individuals** who feel superfluous.
2. Lonely individuals **crave coherent explanations** that give their lives meaning.
3. Mass media can deliver such explanations **directly to millions simultaneously**.
4. Totalitarian movements **exploit this** by offering all-encompassing ideologies.

∴ Mass media combined with mass loneliness creates conditions **favorable to totalitarianism**.

? Discussion Question
Does social media make us **more or less lonely** than broadcast media did?

The Question for Us
If Arendt is right, then the problem isn't just *what* media says, but *what it does* to social bonds.

Social Consequences of Mass Media

+ Benefits

- **Mass education**
- **Shared cultural experiences**
- Exposure to **diversity**
- **Rapid news dissemination**
- **Public health campaigns**
- Civil rights coverage

− Harms

- **Propaganda effectiveness**
- "Manufacturing consent"
- **Advertising and consumerism**
- **Political manipulation**
- Homogenization of culture
- **Passivity**: "The Lonely Crowd"

The Paradox

The same broadcast that showed the Civil Rights Movement to the nation also enabled unprecedented propaganda.

Revolution 5: Web 1.0—The Read-Only Web (1990s)

Key Developments

- **Tim Berners-Lee** invents the World Wide Web (1989–1991)
- **Static pages**, hyperlinks, information retrieval
- Early **utopian visions**: Free information, democratization, disintermediation
- "**Information wants to be free**"—Stewart Brand

The Promise

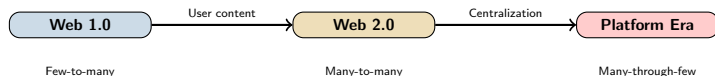The early web was hailed as the **great equalizer**—anyone could publish, anyone could access.

? Discussion Question

The early web was hailed as the great equalizer. How did that work out?

Web 2.0—The Participatory Web (2000s)

Key Developments

- **Social media**, user-generated content
- **Platforms**: Facebook, YouTube, Twitter/X, Wikipedia, TikTok
- **Promise**: Everyone becomes a creator, not just a consumer
- **Reality**: The attention economy and algorithmic curation

Web 1.0	User content	Web 2.0	Centralization	Platform Era
Few-to-many		Many-to-many		Many-through-few

New Intermediaries

Platform companies become the new **gatekeepers**—and they're driven by advertising revenue.

Web 3.0?—Contested Futures

Competing Visions

- **Semantic web / AI integration**: Machines understand meaning
- **Blockchain and decentralization**: Removing intermediaries (?)
- **Virtual and augmented reality**: Immersive digital worlds
- **Artificial intelligence**: ChatGPT, image generation, and beyond

Utopian Vision

- Digital liberation
- Democratized AI tools
- Decentralized power

Dystopian Vision

- Surveillance capitalism
- Deepfakes and misinformation
- Algorithmic control

? Discussion Question

What would a truly **decentralized** internet look like? Is it even possible?

Current Debates

Debate	Position A	Position B
Free speech vs. moderation	Maximize expression	Prevent harm
Privacy vs. convenience	Protect personal data	Enable services
Platforms as publishers?	Yes, they curate	No, they're neutral
Algorithmic amplification	Personalization helps	Manipulation harms
AI benefits vs. risks	Productivity gains	Job loss, misuse

? Discussion Question

Which of these debates do you find most pressing? Why?

The Recurring Question

Who decides? And on what basis?

Patterns Across the Revolutions

Revolution	Technology	Optimist	Pessimist	Core Tension
Writing	Alphabet, scrolls	Theuth	Socrates	Memory vs. Reminding
Printing	Movable type	Luther	Erasmus	Revolution vs. Reform
Distance	Telegraph, phone	Mill	Marx	Free market vs. Ownership
Mass Media	Radio, TV	—	Orwell, Arendt	Information vs. Control
The Web	Internet, platforms	Early utopians	(Us?)	Liberation vs. Surveillance

Recurring Themes

- Each revolution promised **liberation and democratization**
- Each enabled **new forms of control and manipulation**
- The optimists and pessimists were **both partially right**
- The question is always: **Who controls the technology, and for what ends?**

Looking Ahead

Why History Matters for IT Ethics

- We are **not the first** to face these questions
- The "debates" we're having are **ancient**
- Understanding patterns helps us **think more clearly** about the present

Course Roadmap

From **History** → **Ethical Frameworks** → **Contemporary Issues**

" Final Thought

"Those who cannot remember the past are condemned to repeat it."

—George Santayana, *The Life of Reason* (1905)

? Discussion Question

What responsibilities do we have as participants in the current IT revolution?