

Waking Up in the Future

Hibernation, Time, and the Cost of Survival

Humans & The Universe — Lesson 3 of 8



Cryogenic preservation: could humans sleep through centuries?

PART 1: SLEEPING THROUGH THE STORM

Imagine falling asleep tonight and waking up two hundred years from now. The language has changed. The people you loved are long dead. The city outside your window is unrecognizable. Your money is worthless, your skills are **obsolete**, and the world has no memory of you. This is the reality of **hibernation** — not just a long sleep, but a form of time travel that moves in only one direction.

In Liu Cixin's *Remembrance of Earth's Past* trilogy, hibernation technology allows characters to skip forward through centuries. Some enter hibernation to escape political **persecution**. Others do it strategically — sleeping through decades of technological development to wake up in an era with better weapons against the coming alien invasion. The character Luo Ji hibernates after establishing deterrence, waking up in a future where humanity has built a fleet of starships and expanded into space. But the future is never what the sleeper expects.

The experience of waking up is always **disorienting**. The hibernator's body is the same age, but the world has aged centuries. Language has evolved. Social **norms** have shifted. Technology is incomprehensible. Close relationships have been replaced by historical records. The hibernator is, in a very real sense, a living **relic** — a person from a dead civilization trying to function in a new one.

PART 2: THE SCIENCE OF SUSPENDED ANIMATION

Hibernation in science fiction may be closer to reality than most people think. **Cryonics** — the practice of preserving human bodies at extremely low temperatures after death — already exists. Organizations like the Alcor Life Extension Foundation in Arizona currently store over 200 patients in liquid nitrogen at -196°C , hoping that future technology will be able to revive and cure them. The cost ranges from \$28,000 (brain only) to \$200,000 (full body).

More practically, researchers are studying **torpor** — a state of reduced metabolic activity similar to what bears experience during winter hibernation. In 2023, Chinese scientists successfully induced a hibernation-like state in monkeys for the first time. NASA has funded research into torpor for long-duration space missions, envisioning astronauts in a state of reduced **metabolism** during the years-long journey to Mars or beyond. The body's temperature would drop, heart rate would slow, and the astronaut would essentially sleep through the void.

Real-World Hibernation Timeline

1967: First human cryopreserved (James Bedford, still stored at Alcor)

2006: Japanese man survives 24 days without food/water in hypothermic state after falling unconscious

2014: NASA funds study on torpor for Mars missions

2023: First successful induced hibernation in primates (Chinese Academy of Sciences)

2030s: Predicted first human torpor trials for space travel

PART 3: THE PSYCHOLOGY OF DISPLACEMENT

The physical challenges of hibernation pale compared to the psychological ones. Psychologists who study **displacement** — the experience of being removed from your familiar environment — note that even modern immigrants and refugees experience profound disorientation when moving to a new culture. Now multiply that by centuries.

In the trilogy, characters who wake from hibernation experience what could be called **temporal culture shock**. They struggle with a world that has moved on without them. Their values feel outdated. Their language sounds archaic. They lack the shared experiences — the jokes, the history, the collective trauma — that bind a society together. They are physically present but socially invisible.

"He was a man out of time. The world had not waited for him. It had not missed him. It had simply continued, as worlds do, and left him standing in a place that no longer existed."

— thematic adaptation, *Death's End*

This mirrors a real phenomenon called **re-entry shock** — experienced by soldiers returning from long deployments, astronauts coming back from the International Space Station, and even exchange students returning home. The world changed while you were gone, and you changed too (or didn't). The gap between expectation and reality creates a deep sense of **alienation**. For a hibernator waking after centuries, this gap would be an abyss.



The isolation of hibernation — waking up in a universe that has moved on without you

PART 4: WOULD YOU GO?

If you were offered hibernation today, would you take it? The question is more complex than it seems. Sleeping through decades means abandoning everyone you know. Your family ages and dies while you remain frozen. Your friendships dissolve. The person who wakes up will be biologically the same but socially reborn — a stranger in a strange land with no connections, no context, and no community.

Yet the appeal is powerful. Hibernation offers escape from **terminal** illness (sleep until a cure exists), personal crisis, or even civilizational collapse. In the trilogy, many characters choose hibernation not out of hope but out of desperation — the present is so terrible that any future seems preferable. Others choose it **strategically**, betting that their skills will be needed in a later era.

There's also the question of identity. Are you the same person after hibernation? Your memories are intact, but the world that shaped those memories is gone. The philosopher John Locke argued that personal identity is built on **continuity** of consciousness and memory. If you sleep for 200 years, your consciousness has a 200-year gap. Your memories connect to a world that no longer exists. Are you still you? Or are you a copy of someone who died centuries ago, carrying their memories like borrowed luggage?

KEY VOCABULARY

hibernation — a state of deep sleep or suspended animation, lasting months to centuries

cryonics — preserving bodies at very low temperatures for possible future revival

torpor — a state of reduced metabolic activity and body temperature

metabolism — the body's chemical processes that maintain life (energy, growth, repair)

obsolete — no longer useful or relevant; outdated

displacement — being removed from your familiar environment or position

disorienting — causing confusion about where or when you are

norms — accepted standards of behavior in a society

relic — something surviving from an earlier time; an artifact of the past

persecution — hostile treatment, especially because of beliefs or identity

re-entry shock — psychological difficulty readjusting after a long absence

terminal — (of illness) leading to death; not curable

continuity — the unbroken connection between past and present

alienation — feeling disconnected from others or the world around you

A. COMPREHENSION

1. In the trilogy, why do different characters choose to enter hibernation?
2. What is cryonics? How many people are currently preserved?

3. What is torpor, and why is NASA interested in it?
4. What is "temporal culture shock"? How does it differ from regular culture shock?
5. What is re-entry shock, and who experiences it in the real world?
6. What philosophical question about identity does the reading raise?
7. Why might someone choose hibernation out of desperation rather than hope?

B. VOCABULARY IN CONTEXT

Complete each sentence with a word from the vocabulary list:

1. After three years abroad, she experienced _____ — home felt foreign to her.
2. Bears enter a state of _____ during winter, lowering their heart rate and body temperature.
3. His grandfather's typewriter was a _____ from an era before computers.
4. The patient's illness was _____, so she considered experimental treatments.
5. Social _____ change over time — what was acceptable in the 1950s may be offensive today.
6. Many refugees experience _____ when forced to leave their homeland.
7. The rapid pace of technology makes some skills _____ within just a few years.

C. CRITICAL THINKING

1. If you could hibernate for exactly 100 years and wake up in 2126, would you? What would you hope to find? What would you fear?

2. The reading mentions that hibernation is "a form of time travel that moves in only one direction." What makes this different from the time travel we see in most movies? Why is the one-way nature important?

3. Compare the experience of a hibernator waking in the future with that of an immigrant arriving in a new country. What similarities and differences exist? Which adjustment would be harder?

4. Over 200 people have paid to be cryopreserved after death. Is this rational or delusional? What would you need to believe to make this decision?

5. The philosopher John Locke said identity comes from continuity of consciousness. If you sleep for 200 years, are you still "you"? How would you define personal identity?

D. DEBATE: THE HIBERNATION OFFER

Scenario: A reliable hibernation technology now exists. The government is selecting 1,000 people to hibernate for 300 years as "cultural ambassadors" — they will carry knowledge of our era to the future. You've been selected. Do you accept?

Position A: Accept.

This is a once-in-history opportunity. You'll witness the future of humanity. Your knowledge of the past will be invaluable. Life in the present is temporary anyway — at least this way, you serve a purpose beyond your normal lifespan.

Position B: Decline.

Relationships matter more than historical significance. You'd be abandoning everyone who loves you. The future doesn't need you — it has its own people. Living fully in one era is better than being a tourist in two.

Position C: Negotiate conditions.

Accept, but only if family members can join. Or: accept only if there's a guaranteed support system upon waking. The offer as stated is too risky — but the concept has merit with the right safeguards.

E. CREATIVE WRITING ACTIVITY

Your task: Write a journal entry from the perspective of someone who just woke up from 200 years of hibernation. It's your first day in the new world.

Include:

- What do you see, hear, and feel?
- What's the first thing you notice that's different?
- What do you miss most from your old life?
- How do people in the new era treat you?
- What's one thing that's better? One thing that's worse?

Write 150-250 words. Share with your teacher and discuss.

F. REAL-WORLD CONNECTIONS

Rip Van Winkle (1819)

Washington Irving's story of a man who sleeps for 20 years and wakes in post-Revolution America.

How does this classic American story relate to the reading?

Uncontacted Tribes

Isolated tribes in the Amazon live without modern technology. If they were suddenly placed in a modern city, how would their experience compare to a hibernator's?

Japanese Soldiers

Hiroo Onoda hid in the Philippine jungle for 29 years, not knowing WWII had ended. What parallels exist between his experience and hibernation?

Time Capsules

Many cities bury time capsules to be opened in 50-100 years. If you could bury one item for someone in the year 2226, what would it be?



Astronauts on the ISS experience mild re-entry shock when returning to Earth after months in space

Waking Up in the Future — Hibernation, Time & Identity | Humans & The Universe Lesson 3 | 18K English

Teacher's Notes & Answer Key

Waking Up in the Future — Instructor Guide

LESSON OVERVIEW

Level: Advanced (B2-C1) | **Duration:** 60–90 minutes | **Focus:** Reading, discussion, creative writing
Series: Humans & The Universe, Lesson 3 of 8 | **Prerequisite:** None (standalone compatible)

SUGGESTED LESSON FLOW

Warm-up (5 min): "If you could skip ahead 100 years, would you? What about 1,000?" Quick, instinctive answers before reading.

Pre-reading (5 min): Review vocabulary. Focus on: hibernation, cryonics, torpor, displacement, obsolete.

Reading (15-20 min): Parts 1-4. The reading builds emotionally — Part 1 sets up the concept, Part 3 is the emotional core.

Comprehension (10 min): Section A — can be done orally for higher-level students.

Discussion (15-20 min): Section C — questions 1 and 3 are the strongest for conversation. Q5 (identity) works well for philosophical students.

Debate (15 min): Section D — three positions. Push students to argue a position they don't naturally hold.

Writing (15-20 min): Section E — can be done in-class or assigned as homework. Encourage sensory details.

Cool-down (5 min): Pick one scenario from Section F for a brief final discussion.

ANSWER KEY — SECTION A

1. Different reasons: to escape political persecution, to strategically skip to a more advanced era, or to wait out a crisis. Some chose hope (a better future), others chose desperation (the present is too terrible).
2. The practice of preserving human bodies at extremely low temperatures (-196°C in liquid nitrogen) after death, hoping future technology can revive them. Over 200 people are currently preserved.
3. A state of reduced metabolic activity (like bear hibernation). NASA is interested because it could allow astronauts to "sleep" during long space missions (years to Mars), reducing the need for food, water, and psychological support.
4. The disorientation of waking in a future that has changed beyond recognition. Unlike regular culture shock (moving between existing cultures), temporal culture shock involves a one-way gap — the sleeper's original culture no longer exists.
5. Psychological difficulty readjusting after a long absence. Experienced by soldiers returning from deployment, astronauts returning from ISS, and exchange students coming home.
6. If personal identity depends on continuity of consciousness (Locke), does a 200-year gap in consciousness mean you're no longer the same person? Are you "you" or a copy carrying old memories?

7. When the present is unbearable — terminal illness, persecution, civilizational collapse — any future seems better than staying. It's choosing the unknown over the certainly terrible.

ANSWER KEY — SECTION B

1. re-entry shock
2. torpor
3. relic
4. terminal
5. norms
6. displacement
7. obsolete

DISCUSSION EXTENSIONS

Identity deep dive: Ship of Theseus problem — if every cell in your body is replaced over 7 years, are you the same person? How does hibernation amplify this question?

Ethics of cryonics: Is it ethical to freeze someone who can't consent (e.g., a child with a terminal illness)? Who decides when to wake someone up?

Link to Lesson 1: Luo Ji used hibernation strategically — sleeping through decades to wake when needed. Was this brave or cowardly? Compare with soldiers who volunteer vs those who avoid service.

Film connection: Compare with *Interstellar* (2014) — Miller's Planet scene where 1 hour = 7 years on Earth. How did that scene make you feel?

KEY DISCUSSION LANGUAGE

Imagining: "If I woke up in 2226, the first thing I'd..." / "I imagine it would feel like..."

Comparing: "This is similar to... but different because..." / "Unlike X, this..."

Empathizing: "I can understand why someone would..." / "It must be incredibly..."

Philosophical: "That depends on how you define..." / "The real question is..."

Evaluating trade-offs: "On one hand... on the other..." / "The cost of X is Y"

Personal reflection: "Honestly, I think I would..." / "What scares me most about this is..."