

Sci-Fi Writing — Workbook

This workbook turns the Sci-Fi Writing course into hands-on construction of your own premise, extrapolation, exposition, and wonder. Each section maps to a course module and pairs exercises, fill-in worksheets, and checklists you can run against your work in progress, plus editable templates for a premise and novum tracker, an extrapolation cascade, and an exposition and including audit. Work one section per module, keep a running project file, and use the action plan to take a single speculative idea from a one-line novum to a fully outlined, wonder-bearing story.

Constructing a Speculative Premise

Build your central idea as a single clear novum, frame it as a generative question, and protect it by changing only one fundamental thing.

Exercise: Write Your Novum in One Sentence

State the single new thing that is true in your world and not in ours, in one plain sentence with no jargon. Then apply the collapse test: imagine deleting that change and ask whether the plot survives. If the story still works without the novum, you have written something else in a science fiction costume, and you must either rebuild the plot around the change or find a stronger one. Finally, name the real-world subject the change lets the reader see freshly.

- What is your novum in one plain sentence, and how did the change enter the world (invented, discovered, arrived, always-was)?

- If you delete the change, does the plot collapse or survive intact, and what does that tell you?

- What true thing about our real world does this change let the reader see more clearly?

Exercise: Pick Heinlein's Question and Test Generativity

Decide which of Heinlein's three questions your premise asks: what if, if only, or if this goes on. Then test whether it can carry a whole book by listing ten distinct situations or problems the premise generates. If you stall well before ten, the idea may belong in a short story rather than a novel. Mark which human domains those situations touch (love, work, faith, power, death, family, identity).

- Which Heinlein question is truly yours, and what kind of tension does it promise (wonder, longing, warning)?

- How many distinct situations did you reach before stalling, and what does that say about the premise's depth?

- Which single consequence on your list have you not seen another story explore, and could it be the real heart?

Worksheet: One-Big-Change Audit

Fill this in to confirm you are spending your impossibility budget on a single change and deriving everything else.

The one big change readers must accept on faith

Three major things in the world that follow as consequences of that change

Any second or third impossibility that is independent rather than derived

For each independent impossibility: cut it, link it to the first, or justify keeping it

What stays exactly like the real world (the realism that buys belief)

The reserved marvel, if any, and the payoff it is being saved for

Checklist: Premise Readiness Check

- My novum is stated in a single plain sentence a stranger could understand
- The plot collapses if the speculative change is removed
- I know which Heinlein question I am asking and what tension it promises
- The premise generated at least ten distinct situations across several human domains
- I have changed one fundamental thing and derived the rest, not piled up impossibilities
- I can name the true thing about our world this premise lets me say

The Hard-to-Soft Spectrum and Extrapolation

Place your story deliberately on the hard-to-soft spectrum, keep that register consistent, and extrapolate your premise into second- and third-order consequences.

Exercise: Mark Your Register and Find the Broken Promise

Place your story on the hard-to-soft spectrum and write one sentence on why that position serves your premise. Name whether your rigor lives in the physical sciences or the social sciences. Then read your opening pages and list the signals that tell readers which register to expect. Finally, hunt for any single element that violates that register, the hand-waved drive in an otherwise hard book, and decide to fix it, foreshadow it, or move the whole story softer.

- Where on the spectrum does your story sit, and which discipline carries its rigor?

- What signals in your first pages set the reader's expectation for hardness or softness?

- Which element currently breaks your register's promise, and how will you resolve it?

Exercise: Run the Consequence Cascade

Take your novum and push past its obvious first-order effect, which you should write down and then cross out as merely the starting point. Run the change through the human domains (economy, law, war, family, religion, art, class, daily routine), and for each effect ask and what does that cause, following the two or three strongest threads two or three steps deeper. Note where you surprised yourself, and note the losers as well as the winners.

- What was the obvious first-order effect, and what richer second- and third-order effects did it lead to?

- Which consequence surprised you while writing, and could it be the real center of the story?

- Who loses from this change, and how does their loss create conflict you can use?

Worksheet: If-This-Goes-On Extrapolation Sheet

Use this when your premise extends a real present trend into the future.

The real present-day trend you are extending (technological, environmental, political, social)

Where it leads in ten years if unchecked

Where it leads in fifty years

Where it leads in a hundred years

Atwood-test note: which elements are grounded in things humans have actually done

The one ordinary person whose daily life will carry the extrapolation for the reader

Checklist: Spectrum and Extrapolation Check

- My position on the hard-to-soft spectrum is chosen and signaled in the opening
- Nothing in the story breaks the register's promise without setup
- I pushed the premise past its first obvious effect into second- and third-order consequences
- At least one consequence surprised me and made the world feel discovered, not designed
- I have shown who loses, not only who benefits, from the central change
- Any present-trend extrapolation is dramatized through a person, not explained by a narrator

Exposition: Revealing Technology and Setting

Cut the info-dumps, convey the world through including and use, and pace necessary explanation on a need-to-know schedule through the right viewpoint.

Exercise: Hunt and Kill the Info-Dump

Scan your opening chapters for the two classic patterns. Mark every as-you-know line where one character tells another something they both already know, and every maid-and-butler scene where characters narrate the world to each other for the reader's benefit. For each block of front-loaded explanation longer than a few lines, ask whether the reader needs it now or only when it first affects a character they care about, and move or cut it accordingly.

- Where did you find as-you-know dialogue, and how will you rewrite it so characters say only what they would really say?
- Which front-loaded fact would land harder later, and at what scene does it first truly matter?
- What question is your exposition answering too early, and how can you let that question build instead?

Exercise: Convert Explanation to Including

Pick one piece of your world you were about to explain and rewrite it so a character simply uses it, without comment, the way Heinlein's the door dilated implies an iris door from a single verb. Replace a sentence of description with one loaded verb or detail. Present the strange thing as ordinary, letting the character react with habit or irritation rather than awe, and trust the reader to assemble the technology from the interaction.

- Which explanation did you convert into a character using the technology without narrating it?
- What single loaded verb or detail now carries what used to be a paragraph of description?
- Where did you let the reader be briefly confused, trusting the clues to resolve a page or two later?

Worksheet: Just-in-Time Reveal Schedule

List the facts about your world the reader must eventually learn, and schedule each to the moment it first matters.

Fact the reader must eventually understand

The scene where it first becomes necessary

What stakes are attached to it at that moment

How little can be revealed there (only what the scene needs)

Who delivers it: newcomer learning, or competent character thinking aloud

Whether withholding it longer creates suspense or only confusion

Checklist: Exposition Quality Check

- No character explains something to another character they both already know
- No scene halts for more than a few lines to deliver history, tech, or politics out of context
- The world reaches the page mainly through characters using it, not describing it
- Each necessary fact arrives in the scene where it first matters, wrapped in stakes
- At least one knowledge gap is left open on purpose to pull the reader forward
- Technical content is delivered as live problem-solving or honest newcomer learning, not lecture

Sense of Wonder and Avoiding Clichés

Engineer awe through scale, otherness, and the conceptual breakthrough, build reveals with setup and contrast, and handle every trope deliberately.

Exercise: Engineer One Moment of Wonder

Choose your story's single biggest wonder and decide its source: vast scale, true otherness, or conceptual breakthrough. Protect it by resisting an early or cheap reveal. Plant small, unexplained mysteries in the chapters before it so curiosity accumulates, and filter the reveal through one ordinary human reaction so the vast has a scale to measure against. Then replace every adjective of awe (incredible, breathtaking) with a concrete detail: a number, a distance, a physical sensation, a consequence.

- What is your biggest wonder, what is its source, and where will you reveal it for maximum effect?
- Which small mysteries can you plant beforehand so the reveal lands as an event, not a fact?
- Which adjectives of awe did you cut, and what concrete details now carry the wonder instead?

Exercise: Build a Conceptual Breakthrough

Plant a false model of the world that your characters and reader currently believe. Decide the truer, larger reality that will replace it, and write the moment the comfortable model shatters and the vaster one is revealed. Position this breakthrough at a turning point so the discovery is also the plot climax, with awe and pivot arriving in the same beat.

- What false understanding of the world do your characters hold at the start?
 - What larger truth replaces it, and how does the breakthrough reframe everything that came before?
 - Does the breakthrough land at a turning point so wonder and plot climax happen together?
-

Worksheet: Cliché Audit Worksheet

Run your draft against the most worn science fiction tropes and decide, for each one present, how you will handle it: subvert, deepen, or earn.

Deus ex machina climax present? Subvert, deepen, earn, or absent

Simulation or all-a-dream twist? Decision

Single-biome planet (all desert, ice, or jungle)? Decision

Planet of hats (one-trait alien species)? Decision and the variety added

Unmotivated evil AI? Decision and the intelligence's real goal

Lone-genius garage inventor or humans-are-special flattery? Decision

Checklist: Wonder and Originality Check

- My biggest wonder is built with setup and contrast, not announced with adjectives
- Small mysteries accumulate before the reveal so it lands as an event
- The vast is filtered through an ordinary human reaction that measures its scale
- A conceptual breakthrough shatters a false model and arrives at a turning point
- The climax is solved with rules and tools the reader already met, never a new last-minute power
- Every common cliché present has been deliberately subverted, deepened, or earned

Your Action Plan

1. Week 1: Write your novum in one sentence, run the collapse test, and name the true thing about our world it lets you say.
2. Week 2: Pick your Heinlein question, list ten situations the premise generates, and complete the one-big-change audit so the core stays small.
3. Week 3: Place your story on the hard-to-soft spectrum, name the discipline your rigor lives in, and signal that register clearly in your opening pages.
4. Week 4: Run the consequence cascade, pushing your premise into second- and third-order effects and identifying who loses as well as who wins.
5. Week 5: If your premise extends a present trend, complete the if-this-goes-on sheet and choose the one ordinary person who will live inside the future.
6. Week 6: Hunt and kill the info-dumps in your opening chapters, rewriting as-you-know dialogue and redistributing front-loaded explanation.
7. Week 7: Convert key explanations into including, letting characters use technology through loaded verbs and habitual reactions.
8. Week 8: Build a just-in-time reveal schedule, tying each necessary fact to the scene where it first matters and choosing the right viewpoint to deliver it.
9. Week 9: Engineer your single biggest moment of wonder with setup, contrast, and concrete detail, and plant the false model for a conceptual breakthrough.
10. Week 10 and ongoing: Run the cliché audit on the full outline, deciding subvert, deepen, or earn for each trope, then draft chapters while keeping the premise tracker, extrapolation cascade, and exposition audit updated as the story grows.

