

CREATIVITY METHODS

SUPPLEMENT FOR ORGANIZING CREATIVITY (3RD ED.)

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ON THESE METHODS

Creativity methods or techniques are instructions on how to generate ideas in an organized way.

The creativity methods on these pages are interventions to test when idea generation does not match project needs. They are not methods to master, but tools selected and tested for a specific purpose.

The methods are sorted by creative engines (discovery, structure, and state) and modes. Table 1 provides an overview of the engines and modes, and there is a Engines, Modes, & Methods Overview.

The focus is on methods one person can use. For methods involving groups, see □ Creativity in Groups.

General Approach

- **Selection:** Determine first what you need:

New material, because you have no ideas → Discovery Engine.

Order, because you have too many ideas/chaos → Structure Engine

Affect/embodiment, because you are rigid, low range, emotionally flat or overloaded → State Engine.

Then check the requirements in the Engines, Modes, & Methods Overview for the modes to narrow down the modes and check the available methods.

- **Divide and Conquer:** Complex problem usually need to be broken down. For example, the Wright brothers solved the problem of flight by breaking it down into easier to handle sub problems (e.g., aerodynamics, weight, power, etc.).
- **Methods Provide Cover:** So-called creativity methods can help by breaking the routine and providing an excuse to spend time on thinking. Especially in an office environment where everyone is always visibly doing something, just thinking or relaxing the mind (idle cycles) is often the hardest thing to do.

This is a supplement to «*Organizing Creativity*» (3rd edition). It is not included in the book because it is more specific and focused, and therefore not relevant to all readers. If the topic is relevant to you, it provides additional information. It was developed with AI input.

More Information: <https://www.organizingcreativity.com/oc3>

- **The Methods Have No Judgment — Use Yours:** The methods differ in cognitive load, emotional activation, and disruption potential. Some can be integrated into daily work with minimal overhead. Others alter sleep, attention, or psychological state and are best used intentionally and sparingly.
- **Knowledge and Skills Needed:** No method can help unless you have the necessary foundation of knowledge and skills — or access to someone who does.
- **Explore the Design Space:** Try alternatives and avoid iterating the first idea to its end point. Otherwise the «*best*» form of that idea might only be a local maximum, but further outlying ideas would have led to much better solutions. See Greenberg et al., 2012.
- **Infrastructure First:** Insight and inspiration are second order phenomena. It is better to shape the infrastructure to allow for idea generation than to try to force ideas. Though for some project stages focused ideation is needed, e.g., creative or classical problem solving.
- **Produce a Lot:** While projects must be focused and maintain standards, keep your internal quality filter low and generate a lot. Even bad ideas can lead to better ideas. Picasso, for example, did over 20,000 sketches, even on what would later become other drawings. This requires ideation to be cheap — e.g., low tool overhead, low costs for material and low change costs. Capturing and collecting also need to become second nature.
- **Failure is the Way to Success:** Ideas rarely work on the first try. Usually they have to be elaborated and improved. Thomas Alva Edison ostensibly said: «*I have not failed. I've just found 10,000 ways that won't work.*»
- **The Methods are Only Tools:** They are options that can work, but whether they improve your creative work, by assisting you in deliberately creating things that are new and useful, depends on a lot of factors. Always keep that end goal in mind so you do not get lost in methods.
- **No single best method:** Which method works best depends, among others, on the person, the domain and field, and the phase of the project. This is also the reason why some techniques seem to contradict each other, e.g., *Look for Analogies* vs. *Ignore Obvious Analogies*. In some situations analogies help, in others, you already have them and they obscure possible solutions.

Engine	Description
<p>discovery (provides raw material) associative emergence (fast, unbidden, associative, automatic, emotional, sensory)</p>	<ul style="list-style-type: none"> • Ideas «show up on their own» when the mind does surprising connections via drift, serendipity, memory, emotional flashes. • Affected by emotions: collapses when anxious, expands when playful, sharpens when angry, slows but deepens when sad. • Starting point are sparks, ideas just arrive, e.g., ideas while walking, showering, or relaxing. • Thrives on intuition, glimpses, fragments. Thinking harder does not help, but loosing does. The best ideas appear before fully trying. • Fits domains that need surprise, emergence, novelty. Structure comes later. E.g., fiction writing, startup ideation. • Modes: Associative Drift, Serendipitous Collision, Inner Retrieval
<p>structure (shapes the material) methodic recombination and simulation (slow, deliberate, structured, analytical, reflective)</p>	<ul style="list-style-type: none"> • Ideas emerge when you define, organize, and deliberately explore a problem. You choose the direction, goal shapes search. • Starting point is order, then arranged in a smarter way. The ideas arise when you define, shape, formalize, refine, simulate, iterate, and reframe the material into something usable. • Thrives on question and constraints. Combining and recombining feels natural, think best when you can see the structure. The progress from method, not randomness (lists/grids/etc.). • Fits domains that need structure, not irrelevant ideas or noise, e.g., engineering, scientific research, or programming. • Modes: Internal Simulation, Externalization, Constraint-Driven Exploration, Deliberate Combinatorial Search, Representational Shift.
<p>state (shifts the system) affect, embodiment, and social co-regulation (emotion, embodiment, interpersonal attunement)</p>	<ul style="list-style-type: none"> • Ideas are tied to physical or emotional state. The novelty is unlocked by being in right state, which changes the boundary between discovery and structure. • Starting point is a physical, emotional, or social shift so new material becomes possible. Ideas arrive when you tap into emotion, movement, or interpersonal resonance to renew energy, shift perspective, or loosen constraints. • Thrives on resonance, you need movement (pacing, dancing, walking), emotional intensity, music, or interaction. • Fits domains grounded in embodied affective states, e.g., improv, dance, or acting. • Modes: Emotional-Motivational Ignition, Kinesthetic-Embodied Ideation, Interpersonal Synchrony Ideation

Table 1: Creative Engines and Modes

Next Step

Scan the methods by engine, depending on what you need, and try out a suiting method. You might give it a few trials before you know whether it works for you in that situation or not.

Sources

Cross, N. (2011). *Design Thinking*. Berg.

Csikszentmihalyi, M. (1996). *Creativity*. Harper Perennial.

Greenberg, S., Carpendale, S., Marquardt, N., & Buxton, B. (2012). *Sketching User Experiences*. Morgan Kaufmann.

Runco, M. A. (2007). *Creativity*. Elsevier.

Tufte, E. R. (1997). *Visual Explanations*. Graphics Press.

Wainer, H. (1984). How to display data badly. *The American Statistician*, 38(2), 137–147.

ENGINES, MODES, & METHODS OVERVIEW

Discovery Engine Modes and Methods



Associative Drift

- **Use:** Analytical effort yields nothing. Problem is ill-defined. You need unexpected angles.
- **Avoid:** Deadline is immediate. You need structured refinement.
- **Methods:** Solitude Windows, Sustained Associative Drift, Context Shifts, Shock of the New, Entropy Triggers, Dream Catching, Micro-Dissociation, «Let It Wander» Sessions, Mood as Compass, Playful Deviance, Jump-Start Associations, Trust Your Inner Voice, Get in a Positive Mood, Mapped Drift, Loosen the Mind by Staying Awake for a Long Time, AI-Mutated Drift

Serendipitous Collision

- **Use:** You need conceptual novelty. You suspect your domain is limiting you.
- **Avoid:** Core problem definition is unclear. You are already overstimulated.
- **Methods:** Analogy Mining, Cross-Field Swaps, Random Combos, Stimulus Safaris, Serendipity Hours, Idea Collage, Collaborative Sparks, Domain Contrast Conversations, Collect Elements from New Sources, Force Relationships, Oblique Strategies, Look at Different Disciplines, Visit Stimulating Environments, Surround Yourself with Smart People, Use Random Stimuli, Use Existing Works as Starting Point

Inner Retrieval

- **Use:** The project is emotionally or experientially grounded. Personal material may unlock direction.
- **Avoid:** Emotional activation destabilizes output. You need fast convergence.
- **Methods:** Autobiographical Inquiry, Shadow Walkthroughs, Emotional Lineage Mapping, Mistake Mining, Dream Logics, Unfinished Work Re-engagement, Case Immersion, Memory Tracing, Emotional Time Travel, Artifact Prompting, Micro-Memoir Sketching, Feeling to Language Translation, Life-Lens Perspective Shift, Narrative Excavation, Use Dreams, Use

Lucid Dreams, Eat Your Own Dogfood, Externalized Memories and Idea Collection, Use Your Mood, Subconscious Interviewing, Internal Monologue Externalization, Controlled Madness

Structure Engine Modes and Methods



Internal Simulation

- **Use:** Coherence, sequencing, or system behavior matters. You can mentally model the situation.
- **Avoid:** Imagery collapses quickly. Interruptions are frequent.
- **Methods:** Scenario Weaving, Inner Prototyping, Mental Walkthroughs, Imagery Enhancement, Lucid Edge, Paracosm Design, Internal Analogies

Externalization

- **Use:** Use: Ideas are unstable in your head. You need visible structure.
- **Avoid:** Tool overhead blocks momentum. You are polishing too early.
- **Methods:** Sketch-Storming, Idea Mirrors, Sticky Flow, Structure Visuals, Material Variation, Prototyping Lite, Data-Seeing, The Big Surface Rule, Tool-Driven Insight, Tool-Driven Insight, Just Do It, Explain it to a Layman, AI External Cognitive Amplification

Constraint-Driven Exploration

- **Use:** Use: Too many options create paralysis. Precision or focus is needed.
- **Avoid:** The space is already too narrow. You are prematurely converging.
- **Methods:** Boundary Boxes, Inverse Goals, Rule-Set Design, Oblique Moves, Reduction Rituals, One-Variable Changes, Persona Interrogations, Argument Duets, Reduce Options, Determine Holistic Constraints, Take Part in Contests or Exercises, Follow a Procedure, AI Adversarial Simulation & Robustness Testing

Deliberate Combinatorial Search

- **Use:** Use: Variables are identifiable. You need controlled exploration.
- **Avoid:** The problem is still undefined. You are mentally exhausted.

- **Methods:** Break-it-Down Trees, Constraint Matrices, Multi-Case Comparison, Structural Reframing, Goal-Laddering, Expert Triangulation, Re-interpret Data, Consider the Exceptions and Fuzzy Borders, Deviation Amplification

Representational Shift

- **Use:** Use: You suspect the framing is wrong. You keep iterating the same idea.
- **Avoid:** You haven't yet explored the current frame sufficiently.
- **Methods:** Constraint Inversion, Definition Switching, Frame Breaker Questions, Boundary Relocation, Stakeholder Re-Mapping, AI Cross-Domain Translation, Challenge (Implicit) Assumptions, Keep Your Independence, Oppositional Collaboration, Question the Methods, Do Your Own Thing, Challenge Experts, Be Willing to Look Ridiculous, Break the Routine, Look at the World with a Sense of Wonder, Use Different Eyes, First Sight, Look at Non-Events, Challenge False Dichotomies, Reassess the Difficulty of the Problem, Challenge Functional Fixedness and Set Effects, Ask W-Questions, Make Your Biases Transparent, Examine Working Superstitions, Consider the Details, Look at the Actual Data, Consider the Trivials, Physically Change your Perspective, Turn the Situation Upside Down, Change the Scope, Change the Problem Representation, Change the Distance, Look for Analogies, Question Obvious Analogies, Question Visualizations, Look for Different Tools

State Engine Modes and Methods



Emotional-Motivational Ignition

- **Use:** Use: Energy is flat. The project feels lifeless.
- **Avoid:** Emotions override judgment.
- **Methods:** Sensory Overlays, Emotional Anchoring, Narrative Emotionalization, State-Shifting Rituals, Music Modulation, Embodied Feeling Loops, Emotional Juxtaposition, Punch Through, Value Collision, Future Pride Projection, Anger Extraction, Longing Amplification, Personal Stake Declaration, Fear Mapping, Obsession Window, Emotional Contrast Reframing

Kinesthetic-Embodied Ideation

- **Use:** Use: Thinking feels rigid. Physical movement may unlock flow.
- **Avoid:** The task requires still precision.
- **Methods:** Embodied Prototyping, Spatial Mapping, Gesture Sketching, Walking Thought Loops, Somatic Questions, Role Reversal Acting, Scale Shifting, Constraint Walk, Object Dialogue, Flow Blocking, Resistance Testing, Boundary Marking, Rhythm Variation

Interpersonal Synchrony Ideation

- **Use:** Use: Interaction sharpens thinking. Dialogue sparks ideas.
- **Avoid:** Social dynamics suppress candor.
- **Methods:** Cognitive Ping-Pong, One-Minute Rounds, Mirrored Ideation, Walking Synchrony Ideation, Rhythmic Build, Shared Surface Live Construction, Emotional Spike Entry, Breath-Locked Brainstorm, Echo Expansion, Speed Synchrony Drill

DISCOVERY ENGINE

This engine is open, divergent, and generative and provides the raw material via associative emergence (fast, unbidden, associative, automatic, sensory).

The starting point are sparks, ideas just arrive, e.g., ideas while walking, showering, or relaxing. Ideas «*show up on their own*» when the mind does surprising connections via drift, serendipity, memory, or emotional flashes.

It thrives on intuition, glimpses, and fragments. Thinking harder does not help, but loosing does. The best ideas appear before fully trying. These methods are affected by emotions — collapse when anxious, expand when playful, sharpen when angry, and slow but deepen when sad.

It fits domains that need surprise, emergence, and novelty. Structure comes later. For example, fiction writing or startup ideation.

Discovery-Oriented Modes are Associative Drift, Serendipitous Collision, and Inner Retrieval.



ASSOCIATIVE DRIFT

(AD; «*Loose-Field Discovery*», Discovery Engine Mode)

Ideas show up from loose, spontaneous wandering. Daydreaming, shower thoughts, long walks. Anything that provides you with idle cycles works here. While the drift is «*loose*», the infrastructure to capture these sparks must be ready without interrupting the drift (□ Capturing Ideas).

There are two kinds of drift. **Ambient Drift** (shower thoughts, walking insights, gym epiphanies with low stakes, low depth, opportunistic) vs. **Sustained Associative Drift** (long internal wandering with major pattern breakthroughs, which requires safety, containment, and deliberate permission, see Box 1).

These methods are best for ill-defined questions, situations needing fresh angles, or problems where analytically pushing harder hasn't helped.

They require curiosity and low cognitive pressure/relaxed alertness. High associative range, ambiguity tolerance, emotional regulation/ identity-though separation (having thoughts ≠ agree with them, Aristotle's «*It is the mark of an educated mind to be able to entertain a thought without accepting it.*»), breadth of knowledge, moderate working memory and pattern recognition, and low inhibition. Immediate idea capture is needed.

Enter them via gentle idleness (walk, shower), reduce sensory demands, block «*non-doing*» blocks, no interruptions or other people.

Solitude Windows: Short blocks of low-stimulation time where nothing is expected of you. By removing goals and external input, the mind enters a diffuse state that lets fragments combine freely. Ideal for unexpected insights and «*where did that come from?*» ideas.

Context Shifts: Changing physical settings — walking, showering, commuting — gently disrupts habitual thought loops. The shifting environment pulls associations into new configurations, causing ideas to surface without conscious effort.

Bathing: Long baths without distraction, just relaxing and indulging yourself, refilling the tub with hot water and keeping something to write and drink in easy reach.



Shock of the New: Exposure to unfamiliar environments, objects, or cultures destabilizes cognitive routines just enough to make new combinations possible. When nothing feels familiar, connections form across unexpected distances.

Entropy Triggers: Open-ended browsing, random books, unexpected media, and semi-chaotic inputs create cognitive turbulence. Without a fixed direction, the brain recombines pieces spontaneously, making serendipity more likely.

Dream Catching: The liminal moment between sleep and waking often produces loosely structured, highly associative ideas. Writing them down immediately captures insights that would otherwise evaporate in minutes.

Sustained Associative Drift: In contrast to «*having ideas*» by Ambient Drift (shower thoughts), this method is more deep and thus more threatening. But it can lead to useful ideas. See Box 1 for more information.

Micro-Dissociation: Soft mental defocusing — mild fatigue, warm environments, relaxed posture — lowers inhibition and lets background thoughts rise. This is not about zoning out but creating just enough looseness for intuition to surface.

«Let It Wander» Sessions: Short intentional unstructured periods (5–20 minutes) where you do nothing except notice where your thoughts drift. You don't guide, evaluate, or refine — you simply follow the mind and capture whatever appears.

Mood as Compass: Emotions act as early detectors of interesting directions. Paying attention to what feels curious, energizing, or unsettling helps you follow productive associations without forcing structure too soon.

Playful Deviance: Trying the absurd, reversed, exaggerated, or «*impossible*» creates surprise and lowers internal censorship. This gentle rebellion against norms unlocks ideas you'd never reach through logic alone.

Jump-Start Associations: Check synonyms of central terms in a thesaurus or online. See what develops and where it leads you. Then stop and let what you have read echo.

Trust Your Inner Voice: Within reason, trust your inner voice over fear. Even if it is faint. For example, if there is that fleeting thought of «*Wouldn't it be interesting ...*» try out where that leads. Solitude is extremely helpful here to hear that voice more clearly.



Box 1: Sustained Associative Drift

«A long internal wandering with major pattern breakthroughs, which requires safety, containment, and deliberate permission.»

Create and maintain the conditions for drift:

1. **Physical and social safety** by removing surveillance (literal or perceived), preventing interruptions (e.g., smartphone on airplane mode and in a drawer, doorbell off), using white noise, earplugs, or silence, and keeping the lighting soft and peripheral.
2. **Set Temporal Boundaries.** Freedom within constraints protects drift, e.g., 20 minutes, 40 minutes, an hour. Even if you are drowning in thoughts, it ends soon. Try not to exit before the time is up (set an alarm), even when it is hard.
3. **Use a Soft-Capture Tool**, e.g., a notepad or simple index cards. Use it to capture anything that matters.
4. **Separate thoughts from identity.** Just because you think it does not mean you agree with it. Thought is not action, identity or moral verdict. It is just content that appears, not the self that reveals itself, and everyone has pretty dark thoughts. This separation allows you to play with your thoughts, not fear them.
5. **When thoughts matter, jot them down quickly** (fragments are enough if you can understand them later). Don't edit them as that would kill drift.
6. **Exit the drift deliberately.** E.g., stand up, shake yourself, close the notebook, get something to drink. It closes the drift phase and should prevent it from leaking into your daily life.
7. **Wait at least an hour before you review your notes**, or it will kill the habit. Externalize the notes or look at them with a specific question (constraint-driven), don't start another drift with it.
8. **Translate the ideas before you share them.** Many people (esp. gatekeepers in hard domains) expect clearly worked out ideas, not ideas coming from — probably — dark wounds.

Get in a Positive Mood: A positive mood, e.g., via playfulness and humor, widens the mind, thus making associative drift easier. However, ensure that what you do leaves you with idle cycles (so no videos or social media). Good options are, e.g., taking a shower, taking a bath, putting on your favorite music, slipping in your favorite clothes, eating your favorite dish, or scenting your room with a perfume you like.

Mapped Drift: Write down/sketch the thoughts and ideas you have. It allows you to look at other branches when the drift stalls, while being able to follow the drift where it leads you without fearing to forget something.

Loosen the Mind by Staying Awake for a Long Time: Staying up for longer periods of time (e.g., 24 hours) can make drift easier. If you do it sitting down, keep something in your hand that falls down and wakes you if you fall asleep (e.g., keys). The effect is similar to being slightly drunk, without the addictive properties. However, this also limits what you can do in that state. Capturing ideas must be especially effortless or ideas will be lost.

AI-Mutated Drift: It might seem strange to use AI for drift, but it can subtly support it. See Box 2.

Box 2: AI-Mutated Drift

AI can amplify drift by taking your fragments, half-formed ideas, etc. and mutate them, juxtapose them, cross them with other domains, or push them deeper.

This works best for fiction, conceptual innovation, problem-finding, early-stage ideation, and generating new angles.

Start by providing the generative AI with early fragments, e.g., images, sensations, or moods. Ask for mutations, twists, metaphors, analogies, and distortions. Let the AI surprise you and follow the feeling of the spark.

Note that this is an AI mode, so you need a stable identity as it will challenge you regarding the origin of the creative work — what is your vs. the AIs contribution.

See also □ Using AI for Creativity.

Serendipitous Collision

(SC; «*Cross-Pollination Discovery*», Discovery Engine Mode)

Ideas show up when unrelated things collide and spark.

These methods are best for conceptual innovation, originality, metaphorical insight, and breakthroughs from unexpected connections.

They require curiosity and breath hunger, while «*clicks*» between material indicates relevance. High breath of exposure, openness to novelty, pattern-recognition sensitivity, tolerance for contradictory or dissonant stimuli, ability to relax goal focus and let impressions mix, and low fear of weird or non-linear connections.

Enter them by browsing, wandering, mixing domains, use of analogies and mashups, broad reading, field jumping, or stimulating environments (e.g., libraries). Limit the exposure duration to the stimuli before generating to avoid overstimulation.

Analogy Mining: You scan other domains for structures that resemble your problem. Analogies transfer elegant solutions across boundaries and inspire fresh approaches.

Cross-Field Swaps: You deliberately import ideas, forms, or patterns from a completely different field (biology → software, architecture → parenting, etc.). The mismatch creates unexpected innovation.

Random Combos: You take two unrelated elements and force them together, letting meaning emerge through interaction. This structured randomness creates surprising hybrids.

Serendipity Hours: A dedicated time for deliberate wandering — reading strange blogs, flipping through random books, browsing unusual stores. The rule is light structure with open curiosity.

Idea Collage: You assemble visual or textual fragments from diverse sources into a collage. Seeing them together activates new narrative or conceptual patterns.

Collect Elements from New Sources: Make it a point to regularly get input that is very different than what you usually consume. For example, read a newspaper you do not usually read. Go to a museum. Watch something you are not interested in.

Stimulus Safaris: You visit several radically different environments in one session (hardware store → art museum → park), collecting small sparks from each. Diversity of inputs fuels unexpected connections (see Box 3).

Force Relationships: Find relationships between the aspect you are dealing with and a randomly selected object (e.g., physical object, word in a dictionary, etc).

Oblique Strategies: Specific instantiation of Oblique Moves. Oblique Strategies is a system that consists of a series of cards. One card is dealt out, the problem is considered in the light of the question on the back of the card. It might sound strange but it might help to see the problem in a new light.

Look at Different Disciplines: Great discoveries were made by transferring the ideas from one area to another, e.g., Charles Darwin did draw upon geology for his theory of evolution. Artists often merge existing styles or revisit earlier stories (e.g., many writers are retelling the same classic tales). This also works across domains. For example, if you are working in science, look at art, and vice versa. These two major areas for creativity are fuel for each other.

Visit Stimulating Environments: While browsing online is one way (e.g., social media sites, image searches), going beyond sight and sound is usually more stimulating. Nature is usually great for relaxing breaks and for ideas (e.g., Cockleburs sticking to the fur of Mestral's dog leading to velcro, tortoise shell to da Vinci's armored vehicle). Museums and concerts often are stimulating as well — especially given that people are quiet. Travel is usually love it or hate it for creatives — for some it leads to new material, for others it destroys routine and snuffs it out for a while.



Box 3: Stimulus Safaris

«A structured wander through curated stimuli to provoke serendipitous collisions. Go out into the world and collect strange inputs that your problem can collide with.»

Guided expedition through idea-rich environments — but with rules so the experience actually generates ideas rather than becoming aimless browsing. A 90–120 minute exploration of diverse, intentionally chosen environments, designed to expose your mind to unusual inputs that your normal life never provides.

What it looks like in practice: You choose 3–5 locations, different enough to force your mind to make unexpected associations.

Examples: A hardware store. A botanical garden. A thrift shop. A modern art museum. A supermarket in a foreign district. A specialty stationery shop. A second-hand book store. A maker-space.

What you do there: At each stop, you have one mission: *«Look for one element that resonates with your current project — metaphorically, structurally, emotionally, visually, or functionally.»* Then you write or sketch whatever sparks.

Mechanism

- Physical novelty = interrupts default neural pathways.
- Semantic diversity = creates metaphor bridges between domains.
- Mild time pressure = pushes fast noticing.
- Embodied movement = keeps prefrontal inhibition low.
- Constraint (one insight per stop) = prevents overwhelm.

It's essentially Serendipitous Collision + Embodied Mode + Constraint Mode in one elegant protocol.

Collaborative Sparks: You talk to people with different backgrounds or skills. Their questions or misinterpretations force new angles on your idea.

Domain Contrast Conversations: You talk to someone outside your field and let their naïve questions reshape your framing. New interpretations create novel directions.

Surround Yourself with Smart/Creative People: Interacting with people can be stimulating, even if you are introverted (then scheduled and time limited). For example, clubs, forums, summer camps, conferences, retreat with colleagues, heterogeneous teams, or simply talking with people outside of your usual scope of interactions can lead to new material. Just avoid the trolls, assholes and narcissist.

Use Random Stimuli: Whether it's shadows on a wall (da Vinci) or an electric light that throws patterns on paper (Picasso), you can use randomness to break a white page.

Use Existing, even unfinished, Works as Starting Point: Most scientific papers end with open questions, there are unfinished works, or works that could be made accessible to a different time period. Even your own might be a good starting point to create a better version. As long as you make the reference explicit, it is not unethical. For example, Watson and Crick's work was based upon Linus Pauling's Alpha-keratin protein model, Elvis drew upon Gospel and Country music, and Shakespeare revisited earlier stories.

Inner Retrieval

(IR; «*Mining the Self Discovery*», Discovery Engine Mode)

Ideas show up from memory, emotion, identity, or personal history. This can go psychologically deep and often requires emotional regulation.

Best when stuck emotionally or problem is personal or value-laden (e.g., fiction writing).

Requires quiet and inward emotional arousal, relevance and personal significance. High introspective clarity, emotional granularity, good autobiographical memory, capacity for self-observation without shame, comfort revisiting past experiences, above-average reflective intelligence, stable self-concept, high tolerance for slow unfolding, strong sense-making drive, and ability to articulate subtle emotions. Externalize it to deal with emotional overload.

Enter by going for quiet, low stimulation environments, and use reflective questions («*What does this remind me of?*», «*Where have I felt this before?*») or mementos.

Autobiographical Inquiry: You explore how your personal history relates to your project. Emotional resonance reveals authentic directions and hidden drivers.

Shadow Walkthroughs: You safely explore uncomfortable or «*dark*» thoughts, using them as information rather than identity. This uncovers powerful creative material.

Emotional Lineage Mapping: You trace the emotional origins of certain ideas or reactions. Understanding their history reveals new angles and motivates transformation.

Mistake Mining: You revisit past errors or failures to extract overlooked insights. Mistakes hold patterns that success often hides.

Dream Logics: You use dream fragments metaphorically or symbolically. Their strange logic can unlock new conceptual structures.

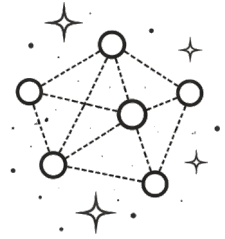
Unfinished Work Re-engagement: You revisit old drafts, sketches, or ideas. The seeds that felt dead then may be fertile now.

Case Immersion: You dive deeply into personal or others' lived experiences related to your project. Story-level detail provides rich creative triggers.

Memory Tracing: Begin with a faint memory, sensation, or image and slowly follow it backward. Ask gentle questions («*Where was I? Who was there? What was the feeling?*»). This allows buried knowledge, tacit learning, or emotional patterns to resurface without force. It's a slow, respectful retrieval method.

Emotional Time Travel: Intentionally re-enter a past emotional state (childhood wonder, adolescent anger, early-sexuality shyness, professional pride). You observe from the present-mind while letting the old state color your perspective. The goal is insight, not catharsis — you're retrieving how that version of you perceived things.

Artifact Prompting: Use old objects as memory triggers — photos, notebooks, drawings, ticket stubs, letters. Objects act as stable anchors that pull up pockets of lived experience. They're especially effective when the goal is authenticity, personal narrative, or emotionally grounded idea generation.



Micro-Memoir Sketching: Write short, fragmentary «*micro-memories*» — one paragraph each — about specific moments, feelings, or people. These sketches often contain raw emotional truth and latent meaning that can be woven into creative work. It's not therapy; it's extracting story-rich material from your own life.

Feeling to Language Translation: Sit with a feeling (not a thought) and try to name it with increasing precision. Move from «*sad*» → «*wistful*» → «*regretful*» → «*longing for something I never had*». This deepens emotional clarity and reveals meanings and ideas that were trapped in vague affect.

Use Dreams: Writing down dreams immediately after you wake up can train you to remember them more easily. This can lead to interesting material. Just remember that dreams are not identity judgments — you can be a bad person in dreams, that doesn't mean you are one in real life. Even daydreams and a nap during the midday can be used for this.

Use Lucid Dreams: Lucid dreams are dreams in which you know that you are dreaming — and can control what happens in the dream. They allow you to try out things that you would otherwise not have the means to do so. One musician, for example, uses lucid dreams to compose music by dreaming up the instruments and playing them, or by dreaming a radio and changing the station until he finds a tune he likes. You find information on lucid dreaming on the web, but for start see Box 4.

Life-Lens Perspective Shift: Retell a situation from a different life-phase version of yourself. How would your 8-year-old self see it? Your 17-year-old self? Your future self? Each perspective retrieves different memories and interpretations. Excellent for creative clarity and emotional depth.

Box 4: Lucid Dreams

«A trained rupture in the illusion of sleep — where awareness re-enters the dream and turns passive imagery into navigable terrain.»



Lucid dreaming is pattern recognition under altered conditions.

Create the conditions for lucidity:

1. **Strengthen Dream Recall:** Before sleep, set a clear intention: *I will remember my dreams.* Upon waking, remain still. Reconstruct fragments before moving. Write them down immediately — even single images, emotions, or locations. Recall trains access. Without memory, lucidity has no traction.
2. **Map Recurring Dream Signs:** Review your notes weekly. Identify repetitions: flying, missing teeth, being late, certain people, distorted architecture. These are your personal «*fault lines*». The more familiar they become, the more likely they trigger recognition during sleep.
3. **Install Reality Checks:** Several times a day, pause and genuinely ask: *Could this be a dream?* Do not perform this mechanically — doubt your environment. Useful tests: Try pushing a finger through your palm. Read text twice (it often shifts in dreams). Observe light switches (they behave inconsistently in dreams). Pair the check with a stable cue (e.g., walking through doorways). Repetition builds transfer.
4. **Use Prospective Intention (Mnemonic Induction):** As you fall asleep, repeat a focused phrase such as: *Next time I'm dreaming, I will know I'm dreaming.* Visualize becoming lucid inside a recent dream scene. Rehearse recognition. This primes metacognition during REM sleep.
5. **Exploit REM Windows (Wake-Back-to-Bed):** Sleep ~5–6 hours. Wake briefly (20–40 minutes). Engage lightly with dream material. Return to sleep with intention. REM density is higher in late-night cycles — awareness slips in more easily there.
6. **Stabilize Upon Lucidity:** Recognition often causes awakening due to arousal. Counterintuitively, slow down: Rub your hands together. Focus on sensory detail (textures, sounds). Spin your dream body. Engagement anchors the dream.
7. **Direct Without Forcing:** Control improves when you shift from domination to suggestion. No «*Make a door appear*», but turn and expect one behind you. Expectation is more reliable than command.
8. **Integrate After Waking:** Record immediately. Reflect not only on what you did, but on how lucidity felt.

Narrative Excavation: Retell a personal event from multiple angles — as hero, as villain, as observer, as antagonist, as mentor, as stranger. Each angle retrieves different emotional truths and meaning structures. This technique uncovers layers of self-understanding that can feed creative projects.

Eat Your Own Dogfood: Use what you are making, so you can refer to your own experience with it later. You have to be careful not to overgeneralize — as you created it, no one knows it better than you. But it allows you to see issues early. «*Drink Your Own Champagne*» is the friendlier designation.

Externalized Memories and Idea Collection: Going through old notes, journals, or the idea collection can be a good starting point. As people usually have times with more ideas than they can realize, the collection becomes a good starting point. Once you restructure the notes to realize a project, new ideas usually come pouring in. See □ Collecting Ideas.

Use Your Mood: If your mood is changing much, try to choose the tasks you do according to the mood you are in. You may not change your mood, but you can use it to do the tasks that suit it. If you are manic and have a lot of ideas, jot them down. Do not censor, do not criticize, just write them down. When you are in a bad mood, it is time to have a look at the ideas. Throw out the bad ones. Tidy up your writing. Do menial tasks.

Subconscious Interviewing: Ask yourself questions and answer them immediately, without filtering or polishing. Treat your subconscious like a separate entity with its own voice. The speed prevents censorship and allows tacit knowledge to surface. This works well for retrieving motivations or hidden beliefs.

Internal Monologue Externalization: Write down your inner monologue word-for-word for 2–3 minutes without editing. Seeing your thought-stream externalized reveals patterns, motives, fears, and hidden desires. This is the closest you can get to observing your own mind in real time.

Controlled Madness: If you have a streak of madness in you, try to follow it for a while (term via Runco, 2007). Remember that being mad is not enough, because the goal is not only to be original (new, that is easy), but it also has to be useful for others.

STRUCTURE ENGINE

This engine shapes the material via methodic recombination and simulation (slow, deliberate, analytical, reflective).

Ideas emerge when you define, organize, and deliberately explore a problem. You choose the direction, the goal shapes the search.

The starting point is order, then arranged in a smarter way. The ideas arise when you define, shape, formalize, refine, simulate, iterate, and reframe the material into something usable. The progress is from method, not randomness (lists/grids/etc.).

It thrives on question and constraints. Combining and recombining feels natural, you think best when you can see the structure.

It fits domains that need structure, not irrelevant ideas or noise, e.g., engineering, scientific research, or programming.

Structure can involve sorting, listing, breaking down, comparing cases, visualizing data, or using experts. Some modes can be supported by laying the material out in front of you (e.g., on a table/wall).

Experience with models and systems helps to more easily identify the structure. However, analogies and models can mislead — they can appear coherent while being deeply wrong (see Box 4).

Structure-Oriented Modes are Internal Simulation, Externalization, Constraint-Driven Exploration, Deliberate Combinatorial Search and Representational Shift.

Internal Simulation

(IS; «*Mind-World Building*», Structure Engine Mode)

Ideas emerge from inner imagery/imagination, mental scenes, and internal rehearsal.

Can use any sense, e.g., imagining taste, texture, aroma in cooking, or sound in music. Includes running mental models, e.g., how machine, process or experiment will run, or how users will behave.

Best for problems needing coherence, elegant structure, sequencing, conceptual clarity, and systems thinking.

Requires relevance, curiosity, and tension (wanting to «*see*» it). Needs strong internal imagery (visual, auditory, or analogical), high working memory span, ability to hold and manipulate mental representations, openness to solitude and stillness, low distractibility (internal scenes collapse easily otherwise), and no other people. Quick external representation needed before the images collapse.

Enter via quiet, solitude, and no visual clutter. Close your eyes and start constructing the scene.

As this requires a strong internal imagery, it is of limited use alone if you do not have that attribute. However, it can be supported very well by switching between short-term Internal Simulation and Externalization.

Scenario Weaving: You mentally simulate scenes, steps, or interactions, watching how they unfold. By imagining experiences from different angles, inconsistencies reveal themselves and refined ideas emerge automatically.

Inner Prototyping: You rotate an idea in your mind like a 3D object, inspecting it from multiple sides. This helps you test structure, function, and coherence before any external work is done.

Mental Walkthroughs: You place yourself inside the imagined experience — as user, observer, or creator. Walking through it internally exposes gaps, new possibilities, and natural next steps.

Imagery Enhancement: Short exercises that strengthen internal visualization, e.g., lingering on colors, shapes, motion, or texture. Sharper imagery improves clarity and complexity of inner simulations.

Lucid Edge: Near-dream states — hypnagogic or hypnopompic — loosen boundaries while maintaining enough awareness to observe ideas. You harvest surreal but meaningful combinations without falling fully asleep.

Paracosm Design: You build an internal world with consistent rules, characters, and environments. You then use it as a place where ideas can be tested, evolved, or contrasted. This living mental sandbox becomes a long-term creativity engine.

Internal Analogies: You compare an idea with internal images, metaphors, or symbolic scenes. The «*visual rhyme*» reveals new structures or emotional insights.

Externalization

(EX; «*Thinking by Making*», Structure Engine Mode)

Ideas emerge through sketching, outlining, diagramming, writing, or other physical forms.

Best for messy, multi-variable, visually rich, or material-dependent problems and anything needing exploration through doing.

It requires tension, relevance and constraints. Preference for artifacts/tools, moderate convergence ability (tidying fragments later), comfort with iterative, incremental idea builds, and need for structure or predictability (externalization stabilizes thought). Use disposable materials to avoid perfectionism.

Enter by using pen, paper, wall, screen, or whatever material used. A «*prototyping area*» and material such as sketch pad, sticky notes, and pens are often helpful.

Externalization helps to deal with complex ideas, esp. for people who cannot maintain a stable internal simulation/image. While the change costs are higher compared to internal simulation, its still exists after an interruption. It also allows for iterations, especially with feedback from others (e.g., target audience, colleagues).

Sketching and Data Visualization are very useful for externalization. Sketches do not have to look nice — just clear. Similarly, Data Visualizations do not need to be «*waow*» in their looks, just in showing the data and their underlying relations clearly (cf. Tufte, 1997, Wainer, 1984, etc.).

The form you externalize something in will change the idea — e.g., when you write it down as text vs. as sketch. See also Representational Shift how the form can influence ideas.

Idea Mirrors: You explain your idea aloud to a safe listener (incl. inanimate objects like a rubber duck, see Box 5). Hearing yourself makes gaps visible and sparks new angles.

Box 5: Idea Mirror Variant: Rubber Ducking

An **Idea Mirror** does not have to say anything at all — you can explain your idea to an inanimate object. As you externalize the idea or problem — what you want to accomplish, what you have tried, what happened vs. was supposed to happen, etc. — it becomes more likely that you find the solution.



Sketch-Storming: Fast, loose sketches — even if ugly — externalize fuzzy thoughts. Drawing forces decisions that the mind can defer indefinitely, clarifying structure and revealing new possibilities.

Sticky Flow: Using walls or surfaces full of post-its or cards creates a fluid, manipulable landscape of ideas. Moving pieces physically helps you see patterns and gaps instantly.

Structure Visuals: Mind maps, trees, matrices, flows — each offers a different way to expose relationships. Choosing the right visual form often is the breakthrough.

Material Variation: Changing medium (paper vs. tablet vs. physical objects) shifts cognitive style. Each material nudges a different kind of thinking, which can unlock ideas stuck in one modality.

Prototyping Lite: Rough, disposable mock-ups let you test ideas quickly without emotional investment. Because they're intentionally ugly, you feel free to modify or scrap them.

Data-Seeing: Creating visualizations before interpreting them lets patterns speak first. Often the insight emerges from the shape, cluster, or anomaly rather than from analysis.

The Big Surface Rule: Large surfaces (big paper, big whiteboards) expand your cognitive workspace. More space allows multiple parallel lines of thought and reduces tunnel vision.

Tool-Driven Insight: Using new tools — software, gadgets, materials — changes what's easy or possible. The tool's constraints and affordances spark ideas you wouldn't reach with familiar methods.

Just Do It: If you are not sure how to proceed, just draw a few lines or write a few words. It breaks the spell of the intimidating «*blank page*» and externalizing one's thoughts clarifies them (cf. Cross, 2011).

Explain it to a Layman: Help does not always need to have the required knowledge or be creative themselves. If you have to tell a layman what your problem is, you have to take the idea from the often highly abstract way of thinking and break it down to a level that anyone can understand. This change of perspective can be very helpful.

AI External Cognitive Amplification: AI is very well suited for dealing with complex tasks and extend your mind. See Box 6.

Box 6: AI External Cognitive Amplification

AI can mirror, expand, and stabilize your thinking loops, letting you operate with an extended, more powerful mind. The AI holds huge context, stabilizes it, manipulates it coherently, feeds back distilled structure, preserves continuity of thought.

This works best for theory-building, frameworks, and taxonomies, complex thought requiring long inference chains, combining multiple conceptual layers, coherence problems (integrating many scattered notes), and transforming large amounts of content quickly.

Start by providing a seed, e.g., a fragment, question, paragraph, or problem. Ask the AI to reflect, expand, rewrite, or restructure. Collide your cognition with the output and iterate.

Note that this AI mode still requires you to have knowledge depth or breadth (one strong pillar is enough), and identity flexibility («ideas ≠ me»). It also places high demands on executive function — the AI does not tire, but you will.

See also □ Using AI for Creativity.

Constraint-Driven Exploration

(CDE; «*Productive Compression*», Structure Engine Mode)

Ideas emerge when boundaries, rules, or tight parameters are applied.

Best for overly open problems, situations with too many possibilities, and tasks requiring precision or efficiency.

Requires constraint and tension. High convergence ability, tolerance for structure and boundary conditions, lower divergence threshold (constraints provide safety), good inhibition control, desire for solvability, clarity, «*true/false*» progress signals, high working memory, knowledge depth, and conscientiousness. If you feel trapped by constraints, then differentiate between soft and hard constraints.

Enter by setting tight limits, e.g., time, rules, or number of elements.

Essentially, any artificial limit introduces a constraint mode, and creativity loves constraint. A white page or canvas can be scary, constraints also constrain that fear.

Boundary Boxes: You deliberately set tight limits (time, materials, goals). The constraint forces focus and makes creativity emerge from necessity.

Inverse Goals: You solve the problem backward, or imagine the opposite outcome. This inversion reveals hidden assumptions and fresh solutions.

Rule-Set Design: You create artificial rules or frameworks (e.g., «*Only 5 words*», «*No screen*», «*One variable change*»). The rules narrow the search space and strengthen creative tension.

Oblique Moves: You draw cards, prompts, or random constraints that direct your next step. This breaks habitual thinking and injects structured unpredictability.

Reduction Rituals: You progressively remove options or simplify elements until what remains sparks new insight. Creativity ignites when excess is stripped away.

One-Variable Changes: You hold everything constant except one element, exploring variations systematically. This reveals leverage points and unexpected shifts.

Persona Interrogations: Someone role-plays a user, critic, or future expert. Their questions force you to articulate assumptions and discover missing elements.

Argument Duets: Structured disagreement where both participants challenge each other's assumptions. The friction produces clarity and reveals blind spots.

Reduce Options: Complete freedom brings paralysis, so constraints bring focus and ingenious solutions. For example, by determining the requirements of the target audience, costs, design guidelines, or other limits.

Determine Holistic Constraints: Take care to include different constraints. For example, not only what should be different but also what must stay the same. Ideally in function, not in looks. Differentiate between what the target audience wants vs. what is actually needs. For example, they might want a more efficient way to communicate between departments (e.g., «improve the eMail app»). They might actually need an improved workflow that reduces the need for communication to almost zero (e.g., develop a better API).

Take Part in Contests or Exercises: These often come with constraints that can be very stimulating. E.g., a photography exercise that requires you to «*lock yourself in your bathroom and shoot the equivalent of a whole roll of film.*»

Follow a Procedure: Adhering to a specific guideline or procedure can provide the necessary constraints, even for highly creative work. For example, in photography, there is the Feel–Ask–Refine–Take procedure (I'll skip the abbreviation). Adhering to it can channel initial impulses to something useful and new.

AI Adversarial Simulation & Robustness Testing: Many AIs are reluctant to give negative feedback, so you have to be explicit in requesting «*truth over comfort*»

and give it the permission to be critical. But if it does, it can be a great sparring partner (see Box 7).

Box 7: AI Adversarial Simulation & Robustness Testing

AI can behave as an intelligent adversary, e.g., a skeptical reviewer, a hostile expert, a rival theory, or a stress-test harness. Its role is to break your idea so you can refine it. This mode reveals blind spots, contradictions, sloppy logic, missing pieces, and weak assumptions.

It works best for paper drafts, grant proposals, product concepts, UX flows, scientific claims, arguments, startup models, business logic, ethical reasoning, and risk analysis.

Start by asking the AI for the most hostile constructive reviewer («*Try to break my idea. Be an adversarial critic.*»). Request edge cases, contradictions, and breakdown points. Push the AI to simulate stronger adversaries.

Note that this AI mode requires integrity and courage, a high tolerance for critique, a high need for coherence, curiosity about failure modes, inhibition control (not defensive), cognitive flexibility, and grit (a willingness to revise because the AI will likely find weak spots).

Deliberate Combinatorial Search

(DCS; «*Structured Insight Mining*», Structure Engine Mode)

Ideas emerge from systematic recombination, analysis, structure.

Best for structured problems, redesigns, variant generation, idea broadening, or option exploration.

Requires constraints and relevance for the goal. High working memory capacity to hold variables, rule sensitivity (constraints as tools), analytic precision, sustained cognitive endurance, cognitive organization (towards systems, frameworks, taxonomies), abstraction skill. Prevent overanalysis with switch to associative drift or serendipitous collision.

Enter the mode by breaking down problem, map variables, and recombine systematically.

Externalization, especially tables and charts, are very helpful here. Whiteboards, sticky notes, etc. and time limits often help as well.

Break-it-Down Trees: You decompose a problem into smaller parts, then recombine them creatively. Structure reveals hidden configurations.

Constraint Matrices: You map variables against options, making the full solution space visible. Patterns emerge from the grid, guiding next moves.

Multi-Case Comparison: You analyze extreme or edge cases. Outliers expose mechanisms that normal cases hide.

Structural Reframing: You reword and reframe the problem at multiple abstraction levels (zoom out → zoom in). Each level reveals new solution paths.

Goal-Laddering: You define the desired end state and reason backward through necessary steps. Reverse engineering generates concrete strategies.

Expert Triangulation: You systematically combine perspectives from multiple experts, identifying overlaps and contradictions. Integration produces deeper insight.

Re-interpret Data: You re-visualize or reorganize data to discover new patterns. The structure, not the numbers, sparks the idea.

Consider the Exceptions, and Fuzzy Borders: Many discoveries were made when extreme cases, outliers, issues that do not fit in current theory, are considered. Do not ignore them as distraction. While most theories are founded on averages, it is worthwhile to have a look at the cases that do not fit into the theory and at the areas where the theory becomes fuzzy. Mistakes in measurement excluded, these areas often lead to new, improved theories, that can explain the central data *and* the exceptions/border data.

Deviation Amplification: Reduce the idea to the key concept and then explore different alternatives. These alternatives (deviations) should be explored until you are sure that you found the best solution (via Runco, 2007).

Representational Shift

(RS; «*Seeing it differently*», Structure Engine Mode)

Ideas emerge by changing the problem's framing, metaphor, constraints, resolution, or perspective.

Best for dead ends, strategic puzzles, «*wrong question*» problems, and situations with hidden assumptions.

Requires tension, curiosity, and relevance. High cognitive flexibility, perspective-taking skill, conceptual fluidity (redefine terms without anxiety), comfort with paradox, high abstraction agility (zoom in and out easily), and low ego-attachment to original plan.

Enter by writing down current framing and asking questions: «*What if the opposite is true?*», «*What's the real problem?*», or «*Which assumptions are conditional on something else that we might change?*»

A playful, irreverent attitude can help, as can recognizing the limits of analogies (see Box 8). See also □ Seeing things differently for examples of things we take for granted, perhaps without good reasons for doing so.

Constraint Inversion: Take a core constraint of the problem (e.g., «*must be cheap*», «*must be fast*», «*must be digital*») and flip it to its opposite («*must be expensive*», «*must be slow*», «*must be physical*»). You don't keep the inversion — you use it to expose hidden assumptions. This often reveals blind spots, alternatives, or structural biases that were shaping the original frame without your awareness.

Box 8: Biases of Analogies

Analogies and metaphors can easily bias ideation.

For example, if you think of goals as a mountain with a path winding up, you have a single solution and a hard way on your mind. You either reach that goal (flag) or you fail (e.g., like the highly motivated climbers who stayed on Mt. Everest). If you think of a river delta, you have multiple ways to the same goal — perhaps some a bit wild, but perhaps not altogether unpleasant. It would both be about reaching a goal (mountain top, ocean) but the implications differ. The mountain might be good for focus and grit, the delta might be better for multiple ways to a win.



Definition Switching: Rewrite the definition of the problem using different lenses, e.g., technical, emotional, user-centered, economic, aesthetic, or systemic. Each rewrite must be genuinely different, not a synonym swap. This forces your mind out of its default interpretive groove and opens new avenues for solution-shaping.

Frame Breaker Questions: Use deliberately destabilizing prompts (e.g., «*What if the opposite is true?*?» «*What would break this completely?*» «*What would a 5-year-old say this really is?*?»). The goal is to disrupt the current mental frame just enough to let a deeper or alternative structure appear without collapsing the whole problem.

Challenge (Implicit) Assumptions: Some problems are hard to solve because we make assumptions that do not hold true. For example, in the nine-dots-problem (connect the nine dots with four lines), people make the assumption that they cannot go outside the space occupied by the nine dots. That is a false assumption and unless it is challenged, the problem cannot be solved (the solution is literally to «*think outside the box*»).



Boundary Relocation: Move the «*edges*» of the problem outward or inward. Shrink the scope (micro version of the problem) or expand the scope (macro system in which the problem sits). This reveals whether the difficulty lies in choosing the wrong unit of analysis — a common reframing error.

Purpose Reversal: Ask: «*What if the real purpose isn't X but Y?*» Challenge the assumed goal. Instead of «*How do we reduce time?*» try «*How do we make waiting enjoyable?*» This exposes latent goals and uncovers solutions that were impossible under the original, possibly misidentified purpose.

Stakeholder Re-Mapping: List all people affected by the problem and redraw the relationships, e.g., who benefits, who loses, who decides, who resists, and who

is invisible. This re-mapping surfaces neglected perspectives and reframes the problem around the true power dynamics or needs rather than the convenient ones.

Keep Your Independence: Challenge your identity, e.g., belonging to mass movements or points of view, and employ □ Viewpoint Diversity to see the issue from another perspective. That does not mean agreeing with that perspective, but using it to see what you cannot see from your established position.

Oppositional Collaboration: Work together with people who have fundamentally opposed viewpoints to generate data together (□ Viewpoint Diversity). Agree in advance on what the relevant questions are and what counts as objective data to answer them. That is hard as you have to tolerate that assumptions you like are questioned, or at least not shared. However, a change in values or agreement is not the goal, but more accurate data and increased understanding.

Question the Methods: The methods you use can skew your view on the world, and they can limit what you can achieve. Look at the powers and limitations beyond their reputation as established procedures or methods.

Use methods from different domains to get a more complex, complete, and concrete picture, develop your own methods and styles, and test new technological advances for their usability for you (but beware of their usual teething troubles).

Methods are a particular problem in science. In many disciplines, you cannot directly observe what is of interest to you. The methods determine what you can detect and what you will not see. It is akin to a net that you throw into the sea — the size of the meshes determines what you can catch and what will slip through. So be determined in your goals but flexible in your methods.

Do Your Own Thing: Ignore constraints such as authority, traditions (i.e. the authority of the past), and even the voices inside you. That does not mean becoming a rebel, that is just a conformist who goes into the opposite direction, but ignoring it. Not letting it influence you one way or the other. It is just irrelevant. That is harder but opens new ways.

Challenge Experts: There are a lot of cases in which experts were dead wrong, usually by asserting something cannot be done. It often only means that it cannot

be done with the established, conventional methods, and requires looking outside of that design space.

Be Willing to Look Ridiculous/Stupid: People often artificially limit the design space they explore, because they do not want to embarrass themselves or look cringe. However, many good ideas look stupid or ridiculous at first, and even silly things can hide surprising depth or effectiveness.

Break the Routine: A change in routine might allow you to see the issue differently. Travel works for some people, but it can also be simple things, e.g., using different materials to work on the ideas or a different time.

Look at the World with a Sense of Wonder: Keep your amazement when looking at the world, a naïve position. With the words of William Blake:

*To see a World in a Grain of Sand
And a Heaven in a Wild Flower
Hold Infinity in the palm of your hand
And Eternity in an hour.*

or Mikasa in *«Attack on Titan»*: *«This world is cruel. But it's also ... it's also beautiful.»*

This includes the ostensibly mundane — things we take for granted, e.g., physical necessities, social norms (see □ Seeing things differently).

Use Different Eyes: How would a child see the world? How a foreigner? How someone from a different century? Especially useful in Research and Development, talk to the ones who actually produce the units, or to the sales people who meet the customers. These people, who work *«where the rubber meets the road»*, can tell you a lot about your products — from a practical and from the customer perspective.

First Sight: Look at what is really there, not what you expect to see (term by Terry Pratchett). We usually do not see, we interpret what we are seeing. That is usually very effective, but prevents finding solutions when our assumptions, pre-conceptions or models are wrong. Look at stage magic to grok how often we make assumptions that might prevent us seeing the solution (e.g., we think a ball is solid,

not out of flexible material). At the very least, a deliberate attempt to compare what is actually there with what we expect might reveal things that are out of place.

Look at Non-Events: Events draw our attention, e.g., the dog that barks. But what did not happen and why? We do not notice that easily because nothing happened. But this very fact might conceal very useful insights (cf. «*Silver Blaze*» by Sir Arthur Conan Doyle for an example where a non-event proved crucial).

Challenge False Dichotomies: A common fallacy is to think in either-or-solutions. This is often fostered by people who want to exert pressure. However, usually more than two solutions are possible, and the third (or fourth, fifth, etc.) solution is usually not a combination of the first two, but a different way.

For example, users of an emotion logging app for the treatment of depression want to just select the emotion, therapist want them to type it so they think about it and don't just select the first emotion. A solution is to look at the reasoning: Users do not want to type an emotion every hour, therapist want honest engagement with the emotions. So a countdown while showing the emotions might work and satisfy both concerns (see also □ Goals and Goal Conflicts).

Reassess the Difficulty of the Problem: Is the problem really as difficult as you assume it is? Or is it easier and you overthink the issue, e.g., use tools that are too powerful? Sometimes simple solutions are overlooked because they are simple (e.g., restarting a computer to deal with an issue). Or is it harder and perhaps outside of your class of tools?

Challenge Functional Fixedness and Set Effects: Objects have affordances — they make some things easy and others hard, and we are used to use them in a certain way. That can blind us to other ways of using them.

For example, a shower is seen as just that — a shower, not water pouring out of a hose at different temperatures.

One of the keys to flexibility is to see what is really there, what an object is capable of doing when we take it out of the context we normally look at it. To quote Gene Kranz in «*Apollo 13*»: «*I don't care about what something was designed to do, I care about what it can do.*»

In the same vein, once we have done something repeatedly, we tend to do it in the same way, even when the situation or problem changes and other ways might

be better. If we challenge these tendencies, novel ways of dealing with problems open up.

Ask W-Questions: Remember the W-questions (which, what, whose, who, whom, what, which, where, whence, whither, when, how (okay, no W in the beginning), why, wherefore, and whether? Ask them regarding the problem at hand.

Make Your Biases Transparent: Even without looking into a problem, we have assumptions, initial ideas, or default solutions. That is fine if an analysis of the problem can go beyond that if needed. However, often these initial ideas serve as anchor. Analyses then just apparently confirm what we already think. If you write down/sketch (immutable, externalized) these assumptions and compare your solution after analysis with it, you can see whether the analysis had a practical effect.

If not, you are either already an expert, or you might have fallen prey to a confirmation bias (looking primarily for confirming evidence).

Highly useful in design, esp. app development, but keep the externalization cheap and short (max. 1 hour, a few pages of paper), otherwise you might run into a sunk-cost fallacy.

Examine Working Superstitions: Some things that appear like magical thinking or superstition might actually work, though for different reasons.

For example, using a moon calendar to plant crops might bring better harvests, not because of a piece of rock in the sky, but because the moon works as widely visible calendar. If all farmers plant the crops at the same time, animals (esp. insects) cannot eat their way through different fields sequentially. In the same way, the bones of slain animals for weapon smithing might have nothing to do with animal spirit enchantment, but more with carbon in bones plus iron creating an early version of steel.

In this sense, discarding an option for an obvious but wrong explanation does not mean that it does not work if that wrong explanation conceals a working one.

Consider the Details: Theories simplify. Have a close look at the details to see what was smoothed out. Sometimes these wrinkles hold the solution to your problems — or new problems to work on. An in-depth study of a singular incident with all its nuances might get you ideas. While in quantitative science aggregations are

necessary for statistical tests, the close analysis of a single case (or a small number) can provide a more complete picture that can then be tested with more subjects.

Look at the Actual Data: Get a feeling for the data, not only the values in the table but how it was gathered. Playing with the data, just trying a few tests and looking what can be done with it, can stimulate ideas.

Consider the Trivials: There are usual areas of a domain that are considered trivial. Things that people neglect because they are too easy, too simple, too common. However, take the time to come to your own conclusion. Are they right? Or is there something to it that can lead to something of value, something creative?

Physically Change your Perspective: Trite, but often one of the easiest and a very powerful way to get a fresh perspective.

For example, early air hand dryers were acceptable in noise — for adults. But children were standing below the dryers so the noise was actually hurting them.

Turn the Situation Upside Down: Similar to the Constraint Inversion, but here you look at the advantages when you flip a situation. Can the problem be turned into an advantage? For example, can the lack of any manual functions make a camera very easy to use, perhaps just the right camera for specific purposes (e.g., wedding shots by guest)?

Change the Scope: Looking at the large picture can reveal breakthroughs (e.g., from producing a single car to revolutionizing manufacturing, cf. Henry Ford's «*Model T*»). You might not be able to improve a given object, but perhaps you can place it in a different context, or work on a different scale.

Change the Problem Representation/Describe it Differently: Describing the problem in a new way might give you the perspective to see the solution to the problem, or at least, push you in the right direction. This will force you to recollect the facts you know, the relationships between the facts, and find a way it can be displayed with that medium to the audience. Tools can help here, e.g., switching from text to mind-maps or sketches.

Change the Distance: Not physically, but psychologically and problem-solving wise.

Some solutions require you to do steps that look like they increase the distance from the goal (e.g., in the «*Cannibals and Missionaries*» problem). That is very difficult when everything in you wants to go directly to the goal. A bit like a chicken being stopped from reaching the visible food by an incomplete fence — it is unable to move away from the fence and go around it.

Humor is extremely useful to increase psychological distance. It might seem like the last thing you need when shit hits the fan and the emotions are derailing every thought, e.g., the company is nearing bankruptcy, or five people are trapped 60 m below the earth in a cave-in. But it can help you with getting a fresh angle on things. Though you might want to do it in quiet, or it might get you ostracized and fired.

Look for Analogies: There are a lot of stories about inventions being made by analogy, e.g., Whitney's cotton gin (cat who tried to catch a chicken through a fence), Morse's telegraph station (stagecoaches changing their horses after each stop), or Kekulé's benzene ring (snake trying to bite its own tail). Whether these stories are true or not, analogies can be a tremendous help understanding problems (but see also Question Obvious Analogies).

Question Obvious Analogies: It is tempting to use obvious analogies for possible solutions or to improve on previous models. However, these analogies can constrain the design space (see also Box 8).

For example, nuclear power plants are essentially just nuclear steam engines (coal replaced by something with a little more «*pep*»). However, a direct conversion of radiation to energy would be more effective.

For some products, previous metaphors had to be broken as they prevented the development. For example, trying to develop a sewing machine on the model of how a seamstress sews does not work. It took breaking that analogy and thinking of sewing with two threads at once that allowed for this development. Similarly, a forklift does not look like a hand and the pallet it lifts would be wrong for purely muscular work.

This also applies to how analogies are seen, e.g., as a therapist once said, borders are not only something that separates us, but also the places where we meet.

Question Visualizations: Akin to Question Obvious Analogies, see Box 8 for more information.

Look for Different Tools: Whether it is in the same domain or a different one, currently in development or rediscovering a tool that was used in the past, this change can open up new ways of dealing with a problem. Especially in science the transfer of tools across disciplines is very stimulating.

AI Cross-Domain Translation: Given its breath of knowledge, the AI can assist you with cross-domain translations. See Box 9.

Box 9: AI Cross-Domain Translation

The AI can take an idea, theory, design, or problem and render it in multiple unrelated domains. For example, engineering, biology, UX, fiction, ethics, economics, or parenting. This reveals deep structure, hidden constraints, analogies, and new applications.

It works best for conceptual reframing, innovation by analogy, generalizing ideas across fields, and seeing the «*form beneath the form*».

Start by giving the AI one idea, ask it to express it in 5–7 unrelated domains. Ask for structural commonalities and divergences, e.g.: «*What does this pattern allow? What does it forbid?*».

This AI mode requires structural curiosity and breath hunger, high pattern-recognition, a love of mapping structures across domains, an openness to reframing, enjoyment of abstraction, breadth or at least breadth-tolerance, pattern sensitivity, and cognitive flexibility.

See also □ Using AI for Creativity.

STATE ENGINE

This engine shifts the system via affect, embodiment, and social co-regulation (emotion, embodiment, attunement).

Ideas are tied to a physical or emotional state. The novelty is unlocked by being in right state, which changes the boundary between discovery and structure.

The starting point is a physical, emotional, or social shift, so new material becomes possible. Ideas arrive when you tap into emotion, movement, or interpersonal resonance to re-new energy, shift perspective, or loosen constraints.

This engine thrives on resonance, you need movement (pacing, dancing, walking), emotional intensity, music, or interaction.

It fits domains grounded in embodied affective states, e.g., improv, dance, or acting.

State-Oriented Modes are Emotional-Motivational Ignition, Kinesthetic-Embodied Ideation, and Interpersonal.



Emotional-Motivational Ignition

(EMI; «*Igniting Creativity*», State Engine Mode)

Ideas are tied to emotional salience, frustration, longing, or obsession.

These techniques are best for problems needing narrative force, meaning, direction, personal projects, or work requiring passion.

They require emotional arousal, meaning, and personal relevance. High affective sensitivity and emotional openness.

Enter them by reconnecting why the idea matters, tapping into personal stakes, frustration, longing, values alignment, urgency, or meaningful obstacles.

Sensory Overlays: Introduce deliberate sensory stimuli (images, scents, textures, or sounds) to nudge the emotional tone of ideation. Shifting the background affect so ideas arise with a different emotional «*color*» without overwhelming yourself. Useful for creative work that needs visceral resonance.

Emotional Anchoring: Start ideation from a specific emotional state («*curiosity*», «*tenderness*», «*melancholy*», «*defiance*») and let the emotion guide which

directions feel alive. This bypasses over-analysis and brings deeper authenticity or urgency into the ideas. Good when the work needs heart rather than cleverness.

Narrative Emotionalization: Tell a story about the problem with heightened emotional stakes — exaggerate, dramatize, or personalize it. This transforms a flat brief into a dynamic emotional narrative, which often reveals motives, tension arcs, or values that were missing in the dry version.

State-Shifting Rituals: Create small, repeatable actions (e.g., lighting a candle, stretching, touching a specific object, changing posture) that reliably shift your mood into a productive emotional register. These rituals create embodied cues that help the mind «*enter*» ignition mode without waiting for motivation to appear by chance.

Music Modulation: Select music that matches or induces the emotional tone you want, e.g., contemplative, energized, feral, triumphant, or nostalgic. Music changes the limbic background against which ideas form, allowing emotional thinking to rise without forcing it. Works especially well for writers, designers, and concept creators.

Embodied Feeling Loops: Use your body to evoke emotion — posture, breathing, micro-movements. Emotion doesn't only flow downward from brain → body; it also flows upward from body → brain. By adopting the physical stance of a feeling (e.g., «*open-hearted*», «*predatory*», «*playful*»), you coax ideas consistent with that emotional energy.

Emotional Juxtaposition: Pair two contrasting emotional states (e.g., «*anger + compassion*», «*fear + courage*», «*joy + melancholy*»). This produces highly original insights because the mind normally doesn't mix contradictory affect. The friction between the emotions generates ideas that feel deep, layered, and human.

Punch Through: Sometimes, controlling one's emotions and just going for it is needed. For example, if you think that you stop working because the work is boring at the moment, and you cannot make it interesting, make a conscious effort to punch through. Music without lyrics often helps.

Value Collision: Deliberately identify two of your core values that are in tension within the project. Explore that friction directly. Emotional conflict often produces direction, edge, and urgency.

Future Pride Projection: Imagine presenting the finished work publicly. What would make you proud? What would feel hollow? The anticipated emotional outcome sharpens criteria and generates new directions.

Anger Extraction: Write down everything that frustrates you about the domain, system, or problem. Do not moderate tone. Anger often exposes unmet needs and structural flaws that can become design drivers.

Longing Amplification: Instead of solving the problem, exaggerate what you wish existed. Heighten the emotional desire until it becomes concrete. Intense longing can reveal non-obvious solution spaces.

Personal Stake Declaration: State explicitly what you personally gain or lose if this succeeds or fails. Emotional investment increases cognitive engagement and directional clarity.

Fear Mapping: Identify what you are afraid would happen if the idea were fully realized. Fear often signals either constraint boundaries or high-impact potential.

Obsession Window: Work only on the aspect that currently feels most emotionally charged. Ignore rational prioritization. Follow the emotional heat for a limited time block.

Emotional Contrast Reframing: Rewrite the problem from an emotionally opposite stance (e.g., from cynical to hopeful, from detached to intimate). Emotional inversion produces structural reorientation.

Kinesthetic-Embodied Ideation

(KEI; «*Movement Thinking*», State Engine Mode)

Ideas are tied to movement, gesture, or spatial change.

This mode works best for spatial, procedural, narrative-flow, or movement-dependent problems, sequences, interactions, or things you must «*feel*».

Requires embodied activation, emotional arousal, and curiosity. High sensorimotor sensitivity (awareness of bodily cues), ease with physicality and space, lower reliance on internal abstract representation, comfort with «*thinking while moving*», emotional regulation (movement can intensify affect), embodied cognition bias, motor fluency, and stress tolerance. Use simple repetitive motion if the movement distracts.

Enter it via walking, gesturing, acting it out, or using materials (e.g., move objects around).

Embodied Prototyping: You use objects, props, or your own body to model concepts. This rough physicality exposes dimensions mental thinking often misses.

Spatial Mapping: You map ideas physically by moving around a room or path, assigning physical locations to concepts. Space becomes memory and structure.

Gesture Sketching: You use your hands to act out dynamics, shapes, or relationships. Gesture accesses spatial and motor systems that unlock new thinking.

Somatic Questions: You explore ideas through bodily sensations (tension, curiosity, ease). Emotional and somatic cues reveal hidden constraints or opportunities.

Role Reversal Acting: You physically enact different roles in the system (user, critic, tool, environment). Move, speak, and behave as that role would. Switching bodies shifts perspective and exposes interaction dynamics abstract analysis misses.

Scale Shifting: You physically exaggerate or minimize movement to explore scale. Act something out in oversized gestures, then in tiny constrained ones.

Changes in physical scale reveal structural assumptions and overlooked constraints.

Constraint Walk: Choose a physical constraint (e.g., move only in straight lines, only backwards, only with one hand active). Generate ideas while operating under that bodily rule. Motor restriction reveals hidden dependencies in the concept.

Object Dialogue: Place two objects in space representing components of the problem. Move them relative to each other while narrating what changes. Spatial repositioning surfaces relationship dynamics more clearly than verbal reasoning alone.

Walking Thought Loops: You alternate between walking and capturing: walk → drift → insight → stop → write → walk. Movement loosens thought, pausing crystallizes it (see Box 10).

Flow Blocking: Physically choreograph a process step-by-step in space. If the movement feels awkward, interrupted, or forced, that friction often indicates conceptual flaws in sequencing or structure.

Resistance Testing: Add physical resistance (slow motion, weighted object, elastic band). Perform the idea under strain. Increased bodily effort reveals inefficiencies, unnecessary complexity, or structural weaknesses.

Boundary Marking: Use tape, chairs, or objects to physically mark constraints or system limits in a room. Move inside, outside, and across these boundaries. Crossing physical borders helps reveal conceptual boundary assumptions.

Rhythm Variation: Repeat the same action under different tempos (slow, fast, staccato, fluid). Notice how the idea changes with tempo. Many conceptual designs implicitly assume a rhythm; altering tempo exposes alternatives.

Box 10: Walking Thought Loops

«A structured movement-based technique that cycles between thought, movement, and capture. Use rhythmic movement to cycle between diffuse creativity and crisp capture.»

This is the kinesthetic equivalent of «think on paper», except the paper is your legs, your rhythm, and your shifting context.



The repeatable choreographed process (repeat 6–10 times):

1. Pose a single question or topic.
2. Walk for 3–8 minutes without trying to solve it.
3. When an idea hits, stop immediately and capture.
4. Reset with a new micro-question or variation.
5. Walk again.

Mechanism: Movement loosens associative inhibition. Intermittent pausing converts diffuse-mode insights into structured-mode captures. Physical rhythm (steps) induces a natural cognitive «metronome». Body engagement recruits sensory-motor cortex → more idea texture. Context drift (passing different scenes) subtly shifts attention frames.

Common variations:

- **Park Loop:** One lap = one idea cycle.
- **Stair Loop:** Climb a flight → hold question → insight at top.
- **Block Loop:** One city block per question.
- **Forest Path Loop:** When the environment shifts (e.g., clearing → forest), pause and capture.

For people who overthink Walking Thought Loops bypass overactive analysis by giving the brain a movement task that occupies enough bandwidth to silence inner critics.

Interpersonal Synchrony Ideation

(ISI; «*Shared-State Creation*», State Engine Mode)

Creativity is tied to interpersonal attunement — matched pace, shared excitement, mirrored posture, convergent attention, and micro-timing alignment.

Speech can be present, but it is not the generator, state alignment is. Talking itself is usually only a medium. It acts like adding a catalytic agent to a chemical reaction. Depending on the case, the reaction speeds up, stabilizes, becomes chaotic, or prevents it entirely. But it is not that «*What other person said reminded me of something ...*» — that would, e.g., be Associative Drift, Serendipitous Collision, or Inner Retrieval and could be achieved by other, non-verbal stimuli.

Key feature is resonance — when two people get into a rhythm and ideas appear between them, not inside either one alone. It is that two nervous systems co-regulate, mutual prediction stabilizes, affective resonance aligns, bodies synchronize (posture, micro-movement, breathing), and cognitive rhythms overlap («*Our autonomic nervous systems entrained, co-regulation formed a shared predictive model, and that produced emergent thought.*»). Talking can be part of it, but talking does not cause it.

It is best for multi-perspective problems, complex conceptual spaces, design, choreography, improv, invention, and situations needing live state shifting, not solitary analysis.

It requires emotional resonance and shared arousal, curiosity, tension, and momentum. In contrast to other modes, this one requires a suiting partner, best in-person. High social sensitivity (tracking micro-cues), comfort with emotional exchange, attunement to rhythm, timing, vibe, ability to externalize partial thoughts without shame, ease entering «*flow*» with another, natural mirroring tendencies, affective attunement, ambiguity tolerance, interpersonal cue-reading, and emotional openness.

Enter it with a partner you trust intellectually and emotionally. Meet standing or walking, or move lightly. Use eye contact or parallel posture. Begin with something emotionally charged or curiosity-heavy.

Cognitive Ping-Pong: Fast exchanges of half-formed thoughts with a partner. Quick back-and-forth generates momentum and forces momentum over perfection.

One-Minute Rounds: You discuss an idea in timed bursts. The short window increases focus and reduces self-censorship.

Mirrored Ideation: Partners deliberately match posture and breathing before beginning. Ideas are exchanged in short alternating fragments. The physical mirroring increases synchrony, and shared rhythm generates momentum that carries ideas beyond individual control.

Walking Synchrony Ideation: Walk side-by-side at matched pace while discussing the problem. Speech continues only while moving. The shared motor rhythm reduces inhibition and stabilizes joint attention, allowing ideas to emerge in motion.

Rhythmic Build: Set a short timer (e.g., two minutes). Alternate rapid statements without pauses or evaluation. The rule is continuation, not refinement. Sustained tempo creates shared cognitive acceleration and emergent structure.

Shared Surface Live Construction: Work simultaneously on the same board or sheet. Both participants add and adjust material in real time without territorial separation. Visual co-regulation forces alignment and produces configurations neither would build alone.

Emotional Spike Entry: Begin by stating what excites, frustrates, or feels urgent about the problem. Continue until shared arousal is palpable. Only then shift into ideation. The elevated emotional alignment increases resonance and generative intensity.

Breath-Locked Brainstorm: Synchronize breathing. One idea per exhale, alternating turns. Maintain respiratory rhythm throughout. The shared autonomic pacing reduces hesitation and promotes fluid co-generation.

Echo Expansion: Person A states a fragment. Person B repeats it with a slight modification. A builds on B's version. Continue iterative micro-variations. Incremental transformation under synchrony produces unexpected structures.

Speed Synchrony Drill: Generate single-phrase ideas at high tempo. No evaluation, no explanation. If pace drops, reset physically (stand, shake, resume). High-speed exchange overrides self-monitoring and strengthens shared flow.
