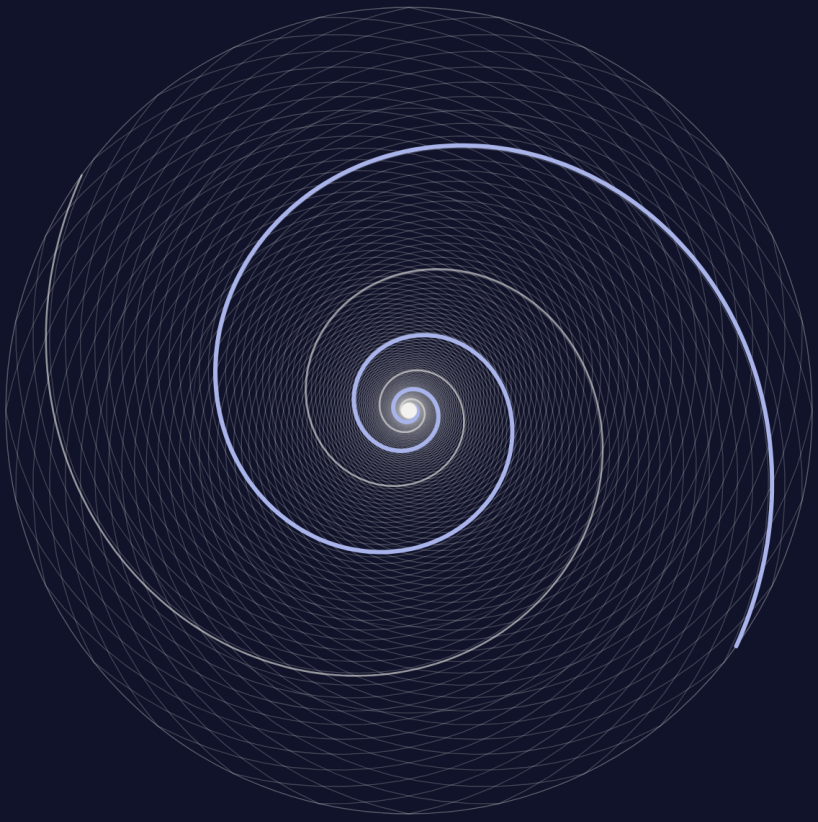
BOOK 4 · COMPANIONS TO THE SYSTEM OF INEVITABILITY



Lens *and* Lattice

ALTERED PERCEPTION, THE INTERNAL ARTS, AND THE SCIENCE OF A CURIOUS PRACTICE

An evidence-based companion to the System of Inevitability

COMPILED BY CORY MATTHEW SNELL

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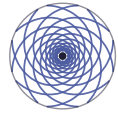

An evidence-based companion to the System of Inevitability

BOOK 4 OF THE COMPANIONS TO THE SYSTEM OF INEVITABILITY

COMPILED BY CORY MATTHEW SNELL

System of Inevitability originated by Uki (@ukigigi)
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Lens and Lattice: Altered Perception, the Internal Arts, and the Science of a Curious Practice
Book 4 of the Companions to the System of Inevitability

Compiled by **Cory Matthew Snell**. The System of Inevitability was originated and developed by **Uki (@ukigigi)**, stonemason and martial artist.

First edition, November 2026. Also in this series: Book 1, *Walking and Turning: Iron, Spirals, and the Science of a Practicing Mind*; Book 2, *Wave and Return: The Bent Fist, the Figure-Eight, and the Science of a Restrained Hand*; Book 3, *Shape and Choice: Everyday Geometry, Calm Presence, and the Science of a Choosing Mind*; and Book 5, *Nucleus and Orbit: Atoms, Necessity, and the Science of an Interwoven Practice* (all 2026), released under the same license.

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Print it, email it, read it aloud, translate it, and give it away. That is what it is for.

Independence notice. This is an independent, unofficial work. It is not written, reviewed, or endorsed by Uki, and it does not speak for him. Nothing in this book states or implies that Uki uses or recommends psilocybin or any other substance. The material on altered-state practice comes from the compiler's own account and philosophy, and from a project document, compiled in November 2026, that discusses geometric expression in the martial arts without naming any particular system. Where this book suggests practices, safeguards, or tests, those are the compiler's suggestions, informed by the general scientific literature. The plates and diagrams are original drawings made for this book.

Health, legal, and harm-reduction notice. This book is for education, reflection, and harm reduction. It is not medical, psychological, or legal advice, and it does not encourage anyone to use any drug. Psilocybin is a controlled substance in most countries, and possessing or using it is a crime in most places. A small number of jurisdictions have created regulated or decriminalized frameworks; the details differ and change, and you must learn the law where you are. This book contains no information on doses, sources, or preparation. Psilocybin can cause intense anxiety, confusion, and impaired coordination and timing, and it carries specific medical and psychiatric risks (Chapter 5). If you choose to explore altered states, you are responsible for the choice, and for the safety of everyone around you.

About the science. Every study cited here was checked against its published record (authors, year, journal, and DOI) at the time of writing, and the findings reported were checked against the published abstracts. No study, number, or quotation has been invented. Where the evidence is thin or absent, and on the central topic of this book it often is, the text says so.

For the curious, who look closely at what is already there.
And for the careful, who make it safe to look.

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How to Read This Book

This is the fourth companion to the System of Inevitability. *Walking and Turning* looked at the system's conditioning tools. *Wave and Return* looked at the striking hand. *Shape and Choice* looked at the mind behind both. This book turns to a different question, one the compiler brought from his own practice: what happens to geometry, touch, timing, and the sense of self when a practitioner trains while perception is altered by psilocybin, and how can that be explored with curiosity and with care?

That question sits at the edge of science. There is a growing body of rigorous research on what psilocybin does to perception, the body, and the sense of self. There is a substantial body of research on the internal martial arts, on touch and pattern, and on contemplative practice. There is almost no research on the place where they meet. So this book has to be especially careful to tell you which kind of knowledge you are reading. You will see three kinds of marked boxes:

> ● EVIDENCE: WELL-ESTABLISHED
>
> **Well-established.** Supported by multiple independent studies, systematic reviews, or meta-analyses with reasonably consistent results. You can lean on these.

> ◐ EVIDENCE: SUGGESTIVE · EMERGING
>
> **Suggestive or emerging.** Supported by real peer-reviewed research, but the studies are few, small, indirect, or debated. Promising, but hold them loosely.

> ○ PRACTITIONER EXPERIENCE · PHILOSOPHY
>
> **Practitioner experience and philosophy.** Experiences, ideas, and suggestions, including the compiler's own, that have not been measured. They may be meaningful. They have not been tested. Every practice suggested in Part II falls here.

And the box you should never skip:

> ⚠ CAUTION
>
> **Caution.** Practical safety information, for your body, your mind, and the people around you. Read these.

Citations appear as author and year, for example (Wittmann et al., 2007). The full list, with journal details and DOIs, is in the References. A sentence that makes a factual claim with no citation and no box is the compiler's reasonable summary or opinion.

Three kinds of knowledge. Throughout this book, keep three categories apart:

- **Measured**: what clinical trials and laboratory studies have found about psilocybin, perception, movement, and practice.
- **Anecdotal**: what practitioners, including the compiler, report from their own experience. Real, valuable, and unverified.
- **Speculative**: any claim that psilocybin improves martial skill. There is no direct evidence for this, in either direction. Not a single controlled study has tested it.

A word about "responsibly." The compiler's philosophy is to "practice everything altered responsibly." This book takes both halves of that seriously. *Practice everything* means curiosity: slow forms, circle walking, free movement, shadow work, light juggling, touch, tracing, and experiments with the senses. *Responsibly* means the conditions that make that curiosity safe: screening for medical and psychiatric risks, a sober sitter and a safe space, and one firm line about equipment. Heavy implements, the steel-armed dummy at force, live weapons, and sparring with partners are left for sober training, and lighter, softer substitutes take their place. Chapter 5 explains why, from the research on what psilocybin does to coordination and timing.

A word about the "upgrade in human consciousness." The owner of this project hopes these books will help facilitate an upgrade in human consciousness. Psilocybin research is, in part, a scientific study of exactly that hope: of ex-

periences people describe as among the most meaningful of their lives. Chapter 14 sets out what that research has found, and how much of it is still uncertain.

Foreword

"The purpose is to bring curiosity to practice while altered. Practice everything altered responsibly. This is how you truly understand your mind and body."

— THE COMPILER

The first three books in this series were about what the System of Inevitability says. This one begins with something I said.

When I asked for a fourth book, I wrote: "Understandably this crosses into emerging research, but I have used psilocybin while training (unarmed/weapons), juggling, free form, bagwork, and dummy training. It is mindbending."

That is the whole testimony, and it is mine, not Uki's. I am putting it at the front of the book for two reasons. First, it is honest about where this book comes from: not from a laboratory, but from a practitioner's own training floor. Second, it is the kind of statement that needs the rest of the book around it. "Mindbending" is a real description of a real experience. It is not yet knowledge.

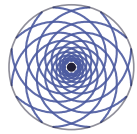
The source document for this book makes a careful argument. Internal martial arts such as Tai Chi and Baguazhang work with spirals, circles, triangles, and lines that correspond to sound physical principles. Altered perception may make those geometries easier to see and feel: the spiral in the forearm, the circle under the feet, the small deflection that grows into a whole-body turn. And the attitude it recommends is "recognition rather than invention": the geometry is already latent in good movement, waiting to be noticed.

My own view goes a step further. I think the altered state is not only a source of insights to take home. It is a place to *study*: to watch your own balance, timing, attention, fear, and sense of self change, and to learn from the changes. That is what most of this book is about.

It is also why I have tried to be rigorous about the research. The same studies that describe the richness of psilocybin perception also describe slower timing, poorer balance, and impaired psychomotor performance. Those findings are why this book draws its one firm line: it does not recommend weapons, heavy implements, or forceful dummy work in an altered state, even though my own training has included them. They are not a reason to stop being curious. They are a reason to choose the right tools for a curious session: soft balls, light sticks, foam blades, an open floor, a sober friend.

Read it slowly. Keep the categories apart: what is measured, what is felt, and what is merely hoped. And share what you find.

Cory Matthew Snell, compiler November 2026



Part I · The Lens

The geometry is already in the movement. The question is how to see it, and how to know when what you see is real.

CHAPTER 1

An Invitation to Curiosity



The core training stance is recognition rather than invention.

— FROM THE SOURCE DOCUMENT ON GEOMETRIC EXPRESSION IN THE MARTIAL ARTS

Every serious practitioner eventually wants to know what is really happening inside their own movement. Where does the turn begin? What does the back foot do when the hand redirects a push? What happens to balance when attention drifts, or to timing when fear rises? Most of the time we cannot see these things clearly. They are too fast, too familiar, or too deeply automatic.

This book is about one unusual way of looking: practising while perception is altered by psilocybin, the active compound in so-called magic mushrooms, and treating the experience as a chance to study one's own mind and body. It is also about the ordinary, sober ways of looking that have far more research behind them. And it is about how to tell the difference between a pattern you have genuinely discovered and a pattern your brain has made up.

Where this book comes from

The series these books belong to grew out of the System of Inevitability, an art developed by Uki (@ukigigi). This fourth book draws on two different sources, and it is important to keep them separate.

The first is a project document that discusses geometric expression in the martial arts *without naming any specific system*. It describes the circles and spirals

of the internal Chinese arts; the physics of angular momentum and rotational inertia; how shifts in perception (visual pattern recognition, proprioception, and interoception) "can make these geometric qualities more available during practice"; how such insights might be carried into regular training; and a set of safety boundaries. Its central stance is "recognition rather than invention: the geometries are treated as already latent in efficient movement and are refined through repeated, attentive practice."

The second is the compiler's own testimony and philosophy, set out in the Foreword: years of training that have included practice under psilocybin, and a conviction that practising altered, responsibly, "is how you truly understand your mind and body."

Neither of these sources speaks for Uki. Nothing in this book suggests that the originator of the System of Inevitability uses or recommends any substance.

The honest state of the evidence

Here is the single most important sentence in this book: **there are essentially no scientific studies of martial arts practice, or of skilled movement training of any kind, under psilocybin.**

A 2025 review asking whether psychedelics have a place in sport concluded that their effects on athletic performance "remain largely unknown," and that studies of their effects on muscle strength, motor coordination, endurance, and related factors "are still scarce" (Portes et al., 2025). Surveys show that some athletes use psychedelics and that many are open to supervised psychedelic therapy (VanderZwaag et al., 2024; Portes & Bertoglio, 2026), but surveys of attitudes tell us nothing about what happens to a Tai Chi form or a bag drill.

What *does* exist is a substantial body of laboratory research on what psilocybin does to perception, time, the body, the sense of self, and psychomotor performance. There is good research on Tai Chi and, to a lesser extent, on other internal arts. There is a deep literature on pattern recognition, touch, and the learning of skill. And there is a growing body of work on meditation and other contemplative practices that touch some of the same experiences. This book

brings those bodies of knowledge together, and is clear about the gaps between them.

◐ EVIDENCE: SUGGESTIVE · EMERGING

Psychedelics and sport: almost no data. The effects of psychedelics on athletic performance remain largely unknown, and studies of their effects on strength, coordination, and endurance are scarce (Portes et al., 2025). No controlled study has examined martial arts training under psilocybin.

○ PRACTITIONER EXPERIENCE · PHILOSOPHY

The compiler's philosophy. "The purpose is to bring curiosity to practice while altered. Practice everything altered responsibly. This is how you truly understand your mind and body." This is a practitioner's view, offered with conviction. It has not been tested, and this book presents it as philosophy, alongside the evidence that bears on it.

What this book will and will not do

This book **will** describe, as fully as the evidence allows, what psilocybin is known to do to perception, timing, balance, touch, and self-experience. It **will** describe what to notice and explore during an altered practice session, if you choose to have one: slow forms, circle walking, free movement, shadow work, light juggling with soft balls, light touch on the bag and dummy, tracing spirals, and experiments with the senses. It **will** set out what "responsibly" means: screening, a sitter, a safe space, and lighter tools. And it **will** show how to check whether what you found is real.

This book **will not** give doses, sources, or preparation methods. It **will not** give legal advice. It **will not** claim that psilocybin makes anyone a better martial artist, because nobody knows. And it **will not** pretend that the altered state is the only door. Chapter 13 describes sober practices that reach many of the same qualities: geometric awareness, a quieter self, and deeper attention to the body.

How the book is arranged

Part I, The Lens, describes the geometry of the internal arts and the evidence behind them (Chapter 2), what psilocybin does to perception and the sense of self (Chapter 3), and what it does to the moving body (Chapter 4).

Part II, Practising Altered, begins with what "responsibly" means (Chapter 5), then describes what to explore in slow forms and circle walking (Chapter 6), in free movement, shadow work, and light juggling (Chapter 7), in touch with the bag and the dummy (Chapter 8), and in the inner senses (Chapter 9).

Part III, Pattern, explains how brains find patterns and how experts see them (Chapter 10), and how to check whether a pattern is real (Chapter 11).

Part IV, Carrying It Home, covers integration (Chapter 12), sober paths to the same qualities (Chapter 13), and what research says about psilocybin, meaning, and consciousness (Chapter 14).

If you read only three chapters, read 4, 5, and 11.

> ⚠ CAUTION
>
> **This book is not an invitation to use drugs.** If you have never used psilocybin, nothing here suggests you should. If you have a personal or family history of psychosis or bipolar disorder, take lithium, or have heart disease, read Chapter 5 before anything else. And if you do practise altered, never do it alone.

CHAPTER 2

Geometry in the Internal Arts



Circular and spiral trajectories in Tai Chi for yielding, redirecting force, and generating power with minimal effort through elliptical and spiraling pathways.

— FROM THE SOURCE DOCUMENT ON GEOMETRIC EXPRESSION IN THE MARTIAL ARTS

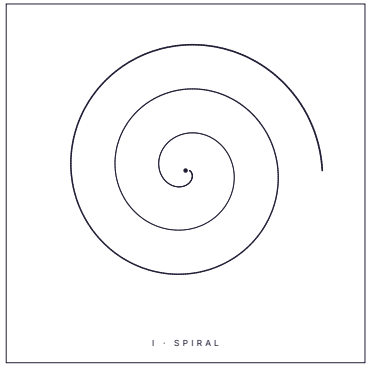


Plate 1 · The spiral. An original geometric study made for this book.

The source document begins with the geometry of the internal Chinese martial arts. Tai Chi works with "circular and spiral trajectories" for "yielding, redirecting force, and generating power with minimal effort." Baguazhang is built on "circle walking and continuous spiraling palm changes," with "constant transformation and connection to a central axis." Many arts use "triangular structures for stability, straight lines for direct power, and curved re-

directions for efficiency." And these geometries, the document says, "correspond to principles of angular momentum, rotational inertia, conservation of energy, and paths of least resistance."

Before asking how altered perception might change the experience of these shapes, it is worth knowing what is actually known about the arts themselves.

The physics, briefly

The physical principles the document names are real, and they are worth stating plainly.

Angular momentum is the rotational equivalent of momentum: the product of how fast something spins and how its mass is distributed around the axis. Without an outside twisting force, it stays constant. That is why a skater spins faster when the arms come in.

Rotational inertia (the moment of inertia) is how hard it is to change something's rotation. Mass far from the axis increases it; mass close to the axis reduces it. A whole body turning with the arms close is easier to start and stop than one turning with the arms extended.

Triangles are stable because a triangle cannot change its shape without changing the length of a side. A stance with a wide, triangulated base resists being pushed over more than a narrow one.

Curves redirect. A force that meets a curved surface at an angle can be deflected rather than absorbed head-on, as anyone who has pushed against a turning door knows.

None of this is mystical, and none of it guarantees that a particular form uses these principles well. But it does mean that the language of spirals and circles in the internal arts is describing something physically meaningful.

What Tai Chi has been shown to do

Tai Chi is one of the most studied movement practices in the world, especially for older adults.

Balance and falls. In an early randomized trial in people aged 70 and over, Tai Chi reduced the risk of multiple falls by 47.5% after adjusting for fall risk factors (Wolf et al., 1996). A 2017 meta-analysis of 18 trials with 3,824 participants found that Tai Chi was associated with a lower chance of falling at least once (risk ratio 0.80) and a lower rate of falls (rate ratio 0.69), with a possible effect of publication bias (Huang et al., 2017). The Cochrane review of exercise for falls prevention rated the evidence that Tai Chi reduces the number of people who fall as high-certainty, and its effect on the rate of falls as low-certainty (Sherrington et al., 2019). In a trial of 670 adults aged 70 or over at high risk of falling, a therapeutic Tai Ji Quan programme reduced falls substantially compared with stretching, and by 31% compared with a multimodal exercise programme (Li et al., 2018). In people with mild-to-moderate Parkinson's disease, Tai Chi improved measures of postural stability more than resistance training or stretching (Li et al., 2012).

Proprioception. Long-term older Tai Chi practitioners made smaller errors than matched controls when repositioning the knee, and could lean further without losing stability (Tsang & Hui-Chan, 2003). In another comparison, older Tai Chi practitioners detected smaller passive movements at the ankle than both sedentary people and long-term swimmers or runners (Xu et al., 2004).

Cognition and wellbeing. A meta-analysis of 20 studies found that Tai Chi shows potential to enhance cognitive function in older adults, especially executive function, though trial quality was modest (Wayne et al., 2014). In randomized trials in people with fibromyalgia, Tai Chi improved symptoms more than wellness education and stretching (Wang et al., 2010) and as much as or more than aerobic exercise (Wang et al., 2018).

● EVIDENCE: WELL-ESTABLISHED

Tai Chi improves balance and reduces falls in older adults. Randomized trials and meta-analyses support this (Wolf et al., 1996; Huang et al., 2017; Li et al., 2018; Sherrington et al., 2019). Long-term practitioners show better joint position sense and movement detection (Tsang & Hui-Chan, 2003; Xu et al., 2004).

◐ EVIDENCE: SUGGESTIVE · EMERGING

Benefits for cognition and chronic pain are promising. Tai Chi may enhance executive function in older adults (Wayne et al., 2014) and improved fibromyalgia symptoms in randomized trials (Wang et al., 2010; Wang et al., 2018).

A complex practice

Why does Tai Chi work? Researchers have pointed out that this is a hard question. Tai Chi integrates many physical, cognitive, and ritual components at once: slow weight shifting, attention to the body, breathing, imagery, a teacher, a group, a philosophy. That richness makes it difficult to design a fair placebo and to attribute outcomes to any single ingredient (Wayne & Kaptchuk, 2008). An earlier review found Tai Chi studies on balance scattered and inconsistent, with wide variation in measures, populations, and styles (Wu, 2002). The evidence has grown much stronger since, but the question of *which* part does the work is still open.

That matters for this book. If someone feels that a spiral became clearer in an altered state, the experience is entangled with attention, slowness, expectation, mood, and setting, just as Tai Chi's benefits are entangled with all its components.

Push hands and the felt line of force

Tai Chi's two-person practice, push hands, is the closest the internal arts come to a laboratory of "listening, blending, and following natural lines of force," as the source document puts it. Remarkably little research exists on it. In a biomechanical case study, an experienced master defended pushes from four opponents while his movement, muscle activity, and ground forces were recorded. He used a subtle postural adjustment: weight shifted from front to rear foot, the centre of gravity shifted sideways, the upper-body muscles stayed quiet, and the rear leg took the incoming force. Inexperienced people doing the same task all lost their balance (Chen et al., 2010). It is a single case, but it shows what yielding and redirecting force can look like when measured.

Circle walking and Wing Chun

Baguazhang has barely been studied. In a 2026 randomized trial, 46 sedentary postmenopausal women were assigned to twelve weeks of supervised Baguazhang or to their usual lifestyle. Circle walking was the most demanding part of each session, at moderate cardiovascular intensity, and systolic blood pressure was lower after the programme than in the control group. The authors note that the study shows Baguazhang is a feasible, moderate-intensity exercise, not that it is superior to other exercise (Cao & Zhang, 2026).

Wing Chun, the art most associated with the wooden dummy, has a similarly thin research base. An early study found that continuous Wing Chun practice demanded more oxygen and raised the heart rate more than Tai Chi, enough to provide a cardiorespiratory training effect for people starting with low fitness (Schneider & Leung, 1991). A motion-capture study of four experienced practitioners compared two ways of sequencing straight punches in a modern Wing Chun style and found that both showed proximal-to-distal sequencing of peak joint speeds, with different timing and fist speeds (Fuchs et al., 2017). An essay has proposed a psychological framework linking Wing Chun's principles to wellbeing, but it is a conceptual proposal, not an experiment (Watson & Kemp, 2025). Chapter 8 returns to the dummy itself.

> ◐ EVIDENCE: SUGGESTIVE · EMERGING
>
> **The other internal arts are barely studied.** A single trial suggests Baguazhang is a feasible moderate-intensity exercise (Cao & Zhang, 2026). Wing Chun research consists of a few small physiological and biomechanical studies (Schneider & Leung, 1991; Fuchs et al., 2017). Push hands has been examined in a single biomechanical case study (Chen et al., 2010).

Recognition rather than invention

The source document's most useful idea is its stance: "recognition rather than invention." The geometries "are treated as already latent in efficient movement and are refined through repeated, attentive practice."

This is a scientifically sensible attitude. Book 3 described how the nervous system's own movements follow curved, smooth, lawful paths, and how skilled movement allows variation where it does not matter. A spiral is not something the practitioner imposes on the body. It is something the body already tends to do when it moves well. The task is to notice it, and then to refine it.

It is also, as later chapters will show, a protective attitude. A practitioner who expects to *recognize* what is already in good movement will check every new insight against the movement itself, on film and in sober practice. A practitioner who expects to *invent* a new geometry in an altered state is far more likely to be fooled.

> ○ PRACTITIONER EXPERIENCE · PHILOSOPHY
>
> **"These geometries correspond to principles of angular momentum, rotational inertia, conservation of energy, and paths of least resistance."** The physics is real. Whether a particular form or practitioner uses it efficiently has to be measured case by case. "Paths of least resistance" is a useful image rather than a measured property of the internal arts.

CHAPTER 3

What Psilocybin Does to Perception and Self



Visual–kinesthetic bridging: Perceiving movement trajectories as spirals, figure-eights, or continuous loops.

— FROM THE SOURCE DOCUMENT ON GEOMETRIC EXPRESSION IN THE MARTIAL ARTS

Psilocybin is a compound produced by several species of mushroom. In the body it is converted to psilocin, which acts mainly by stimulating a particular serotonin receptor, the 5-HT2A receptor. Controlled studies have shown that blocking this receptor with a drug called ketanserin prevents many of psilocybin's effects, including its psychosis-like state (Vollenweider et al., 1998) and its visual hallucinations (Kometer et al., 2013).

This chapter describes what laboratory research has measured about the experience. It is the background for everything in Part II: if you are going to study your own mind and body in this state, you need to know what the state is known to do.

Profound, mostly pleasant, sometimes frightening

The largest pooled analysis of laboratory studies combined raw data from eight double-blind, placebo-controlled experiments in 110 healthy people. Psilocybin produced dose-dependent, "profound changes in mood, perception, thought and self-experience," yet most participants described the experience as "pleasur-

able, enriching and non-threatening." Acute adverse reactions, meaning strong dysphoria or anxiety and panic, occurred only at the two highest doses, in a relatively small proportion of people, and all were managed with interpersonal support. Follow-up found no persisting perception disorders, prolonged psychosis, or long-term impairment in anyone (Studerus et al., 2011).

Those participants were healthy, screened, well prepared, and carefully monitored. That context matters enormously, and Chapter 5 returns to it. In another laboratory study, at the higher doses studied, 39% of volunteers had episodes of extreme anxiety or fear (Griffiths et al., 2011).

Researchers measure these experiences with questionnaires. A standard **altered states of consciousness** rating scale, evaluated on pooled data from 43 experimental studies, was refined into eleven more specific lower-order scales (Studerus et al., 2010). The **Mystical Experience Questionnaire** measures mystical-type experiences (Barrett et al., 2015). The **Ego-Dissolution Inventory** measures the loss of the ordinary sense of self (Nour et al., 2016).

● EVIDENCE: WELL-ESTABLISHED

Psilocybin produces dose-dependent changes in perception, mood, thought, and self-experience, via the 5-HT2A receptor. In screened, prepared, monitored laboratory volunteers, most experiences were described as positive, but anxiety and panic occurred, mainly at high doses (Vollenweider et al., 1998; Studerus et al., 2011; Griffiths et al., 2011; Kometer et al., 2013).

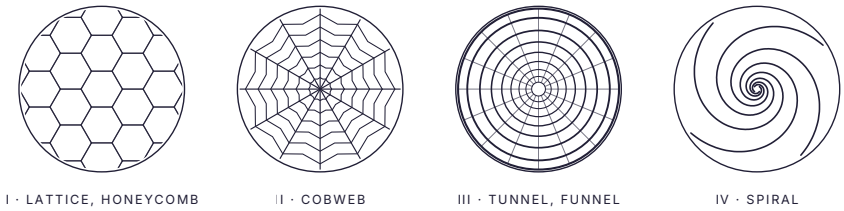
Geometry behind the eyes

Of all the effects of psilocybin, the most relevant to a book about geometry is visual. In a double-blind comparison with another hallucinogen, a high dose of psilocybin produced "more frequent, brighter, distinctive, and complex (including textured and kaleidoscopic) images and visions" (Carbonaro et al., 2018).

Many of those images take regular, repeating forms. The psychologist Heinrich Klüver sorted drug-induced geometric hallucinations into four groups he called **form constants**: (1) gratings, lattices, fretworks, filigrees, honeycombs, and chequer-boards; (2) cobwebs; (3) tunnels, funnels, alleys, cones, and vessels;

and (4) spirals. In 2001 a team of mathematicians and neuroscientists showed that all four can be explained by the architecture of the primary visual cortex (V1). When the cortex is excited into spontaneous patterns of activity, simple stripes and waves of activity across V1 map onto the visual field, through the eye-to-cortex map, as exactly these shapes: spirals, tunnels, cobwebs, and lattices (Bressloff et al., 2001).

Klüver's four form constants



SCHEMATIC · categories as summarised by Bressloff et al. (2001) · not drawings of any person's experience

The four form constants. Klüver's categories of geometric hallucination, as summarised by Bressloff et al. (2001), redrawn as simple schematics for this book.

Electrical recordings show what happens on the way. Psilocybin strongly reduced the alpha rhythm over the back of the head, which normally regulates how excitable the visual cortex is, and reduced a visual brain response (the N170) in step with the appearance of visual alterations. All of these effects were blocked by ketanserin. The authors suggest that the visual cortex shifts into a mode in which "stimulus-driven cortical excitation is overwhelmed by spontaneous neuronal excitation" (Kometer et al., 2013).

This is a striking idea for a practitioner of the spiral arts. It suggests that at least some of the geometry seen in the altered state comes not from the world but from the *structure of the viewer's own visual system*. That does not make the spirals on a Tai Chi practitioner's forearm unreal. But it means that a spiral seen during an altered session may be partly the movement and partly the cortex. Chapter 11 describes how to tell them apart.

● EVIDENCE: WELL-ESTABLISHED

Geometric visual imagery is a core psilocybin effect, and its classic forms reflect the architecture of the visual cortex. Psilocybin produces complex, textured, and kaleidoscopic imagery (Carbonaro et al., 2018) through 5-HT2A-dependent changes in visual cortex activity (Kometer et al., 2013). A mathematical model derives Klüver's four form constants from the organization of V1 (Bressloff et al., 2001).

The quieting of the hubs

Brain imaging shows how far beyond vision the changes go. In an early fMRI study, psilocybin decreased blood flow and activity, most strongly in "hub" regions such as the thalamus and the anterior and posterior cingulate cortex. The decrease in the medial prefrontal cortex predicted the intensity of the subjective effects, and the coupling between the medial prefrontal and posterior cingulate cortex, two central nodes of the brain's default mode network, fell (Carhart-Harris et al., 2012). Book 3 described this network's link to mind-wandering and self-referential thinking, and how experienced meditators show reduced activity in some of its main nodes (Brewer et al., 2011).

In a related study, the strength of **ego dissolution** was associated with reduced communication between the medial temporal lobe and high-level cortical regions, a "disintegration" of the salience network, and reduced communication between the brain's hemispheres (Lebedev et al., 2015).

Two big hypotheses

Two influential theories try to explain these findings. Both are hypotheses.

The **entropic brain hypothesis** proposes that the psychedelic state is a "primary state" of consciousness with elevated entropy, a richer, less constrained repertoire of brain activity, and that ordinary waking consciousness *suppresses* entropy in a way that supports reality-testing and self-awareness (Carhart-Harris et al., 2014).

REBUS (relaxed beliefs under psychedelics) combines the entropic brain idea with predictive processing, the view that the brain constantly predicts its

sensory input. It proposes that psychedelics "relax the precision of high-level priors or beliefs," freeing bottom-up information to flow (Carhart-Harris & Friston, 2019). In plain terms: the brain's usual assumptions about what it is seeing and feeling loosen their grip.

A more recent proposal, **ALBUS** (altered beliefs under psychedelics), argues that the opposite can also happen. Under some conditions, prior expectations may become *stronger*, which would fit the enhanced meaning-making of psychedelic experiences, the "imposition of prior expectations on perception (e.g. hallucinations and pareidolia)," and the delusional thinking that sometimes occurs, including apophenia (Safron et al., 2025).

For a practitioner, the two ideas point to two possibilities that both deserve respect. One is that the loosening of habitual assumptions may let you feel your own movement as if for the first time. The other is that your brain may project patterns onto movement that are not there. The practice chapters assume both are possible.

◐ EVIDENCE: SUGGESTIVE · EMERGING

Entropic brain, REBUS, and ALBUS are hypotheses. They are serious, influential models that organize the imaging data (Carhart-Harris et al., 2014; Carhart-Harris & Friston, 2019; Safron et al., 2025), but they have not been established. The specific idea that psilocybin "loosens" a practitioner's movement habits has not been tested.

Meaning that feels like discovery

Psychedelics also change what *matters*. In a study with LSD, a related psychedelic, volunteers attributed personal relevance to stimuli that had previously been meaningless to them, an effect blocked by ketanserin (Preller et al., 2017). A theoretical review argues that this "meaning-enhancing" property may help explain the therapeutic, creative, and mystical effects reported with psychedelics (Hartogsohn, 2018).

This is perhaps the single most important fact in this book for anyone hoping to learn from an altered session. The feeling of significance, the sense that

this is how the turn really works, is itself one of the things the drug amplifies. It is not proof that the insight is correct. It is also not proof that it is wrong.

The self that steps aside

The source document describes an "ego-dissolution effect on practice": "Reduced self-referential concern about 'correct form' allowing freer exploration of natural trajectories."

The research supports something close to this, with a qualification. Ego dissolution is a measurable effect (Nour et al., 2016), with identifiable brain correlates (Lebedev et al., 2015). But a careful philosophical and scientific review argues that self-consciousness has many dimensions, including narrative self-talk, memories, and "embodied aspects rooted in multisensory processes," and that "self-loss" can take several forms. The same review calls for caution about the "problematic conflation of temporary states of self-loss with 'selflessness' as a behavioral or social trait" (Millière et al., 2018).

For practice, that suggests a useful distinction. Losing the anxious inner critic who worries about correct form is one thing. Losing the bodily sense of where your limbs are, or of where the wall is, is another. The first may free movement. The second is a hazard. Chapter 9 offers experiments that let you notice which one is happening.

> ○ PRACTITIONER EXPERIENCE · PHILOSOPHY
>
> **"Reduced self-referential concern about 'correct form' allowing freer exploration."** This matches the measured phenomenon of ego dissolution and the quieting of self-referential brain networks. No study has tested whether it frees movement in martial practice.

CHAPTER 4

What Psilocybin Does to the Moving Body



Proprioceptive refinement: Heightened sensitivity to helical twisting through the torso and limbs.

— FROM THE SOURCE DOCUMENT ON GEOMETRIC EXPRESSION IN THE MARTIAL ARTS

The source document speaks of "heightened sensitivity" in the altered state. The compiler calls the experience "mindbending." Both describe the *felt* side of practice. This chapter describes the *measured* side: what controlled studies have found when people under psilocybin are asked to keep time, pay attention, balance, move quickly, or notice touch.

The short version is that psilocybin makes the inner experience of the body richer and stranger, while making most measured kinds of performance somewhat worse. That combination is exactly why an altered session can feel profound and still be the wrong time for a steel dummy or a live blade.

Time stretches, and timing slips

The first systematic study of time under psilocybin tested twelve healthy volunteers on a placebo and two active doses. Psilocybin significantly impaired their ability to reproduce intervals longer than about 2.5 seconds and to synchronize with beats spaced more than 2 seconds apart, and it made their preferred tapping rate slower. These changes came with working-memory deficits and reports

of disturbed "time sense," depersonalization, and derealization. The authors concluded that the serotonin system seems to be selectively involved in processing durations longer than 2 to 3 seconds, and in "the voluntary control of the speed of movement" (Wittmann et al., 2007).

Two details matter for martial practice. First, the longer rhythms that were disrupted are the rhythms of forms, circle walking, and juggling cycles. Second, the study did not test the very fast, reactive timing of a strike, a parry, or a catch, so we simply do not know how that is affected. The absence of measurement is not reassurance.

Attention, memory, and psychomotor speed

In a dose-effect study with eight healthy volunteers, the two larger doses tested reduced performance on a standard attention test by about half compared with placebo (Hasler et al., 2004).

In a larger double-blind study, twenty experienced hallucinogen users completed a battery of tests at several doses. Global cognitive impairment, of the kind seen in delirium, did not occur. But psilocybin produced "orderly and dose-dependent effects" on psychomotor performance, working memory, episodic memory, associative learning, and visual perception (Barrett et al., 2018). In the same participants, psilocybin increased blood pressure and heart rate and "decreased psychomotor performance and balance" (Carbonaro et al., 2018).

A systematic review of 43 papers on the cognitive effects of psychedelics in healthy people found that most reported detrimental or neutral effects on cognition at the peak of the drug's effect. The authors also noted that small samples and inconsistent methods prevent firm conclusions (Velit-Salazar et al., 2024).

● EVIDENCE: WELL-ESTABLISHED

Psilocybin impairs timing, attention, psychomotor performance, and balance during its peak effects. Controlled laboratory studies consistently find dose-dependent impairment, without global confusion (Wittmann et al., 2007; Hasler et al., 2004; Barrett et al., 2018; Carbonaro et al., 2018; Velit-Salazar et al., 2024).

Touch and the bodily self

The body's own signals change too. In a combined EEG and fMRI study, psilocybin reduced the brain's response to surprising touch, in frontal regions, the visual cortex, and the cerebellum. It also reduced an electrical signal of tactile mismatch, and this reduction was associated with altered body- and self-experience. The authors describe this as "aberrant prediction error processing" of touch (Duerler et al., 2021). A review of psychedelics and the bodily self proposes that they alter the predictive processes by which the brain integrates signals from the senses into a coherent sense of the body (Ho et al., 2020).

Put simply, the brain normally predicts what touch will feel like and notices when a prediction is wrong. Under psilocybin, that noticing is altered. For a practitioner, this may be part of why the familiar feel of a bag, a dummy arm, or a partner's wrist can seem new. It is also a reason to keep contact light. A brain that is less able to register surprising touch is less able to register the early warning signs of an impact going wrong.

◐ EVIDENCE: SUGGESTIVE · EMERGING

Psilocybin changes how touch and the bodily self are processed. A single imaging study found altered processing of surprising touch, linked to changes in body- and self-experience (Duerler et al., 2021). The broader predictive-coding account of the bodily self is a theoretical proposal (Ho et al., 2020).

The heart and the heat

Psilocybin has modest effects on the cardiovascular system. In a pooled analysis of 85 healthy participants, it raised blood pressure and heart rate only moderately; heart rate exceeded 100 beats per minute in 7% of administrations, and a raised body temperature was more common at higher doses. No serious adverse reactions occurred (Straumann et al., 2024). In a direct comparison with LSD, psilocybin raised blood pressure more (Holze et al., 2022). An earlier study found blood pressure moderately elevated about an hour after the highest dose only, with no changes in the electrocardiogram (Hasler et al., 2004).

These are small effects for a healthy person resting in a laboratory. Vigorous exercise adds its own rise in heart rate, blood pressure, and body heat. No study has measured what happens when the two are combined, which is one more reason the practices in Part II are slow, light, and unhurried.

What has never been measured

To be clear about the gaps, here are some things no published study has measured:

- reaction time to an incoming strike or a thrown object under psilocybin;
- accuracy of a strike, a weapon cut, or a juggling catch under psilocybin;
- injury rates in any kind of physical training under psilocybin;
- whether practising a skill under psilocybin improves, harms, or does not affect that skill when sober.

A review of psychedelics in sport concluded that their effects on athletic performance "remain largely unknown" (Portes et al., 2025). A brief report from 1966 described "time contraction and psychomotor performance" under psilocybin (Fischer & Mead, 1966), but modern research has not taken up skilled movement.

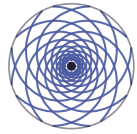
Why this matters

The research gives a coherent picture. Under psilocybin, perception is vivid, meaning is amplified, the self-critic may quiet, and the body may feel newly available. At the same time, longer timing is disrupted, attention is reduced, psychomotor performance and balance are worse, and the processing of surprising touch is altered.

For slow, solo, light practice, these changes are part of what makes the experience worth studying. For fast, forceful, or partnered practice, the same changes are a recipe for injury. The safety section of the source document draws that line plainly: "Do not practice sparring, weapons work, or high-risk movements while

in any altered state." The next chapter explains how to honour that line while still practising curiously.

> ○ PRACTITIONER EXPERIENCE · PHILOSOPHY
>
> **"It is mindbending."** The compiler's experience of training under psilocybin matches what the laboratory research would predict about perception: vivid, strange, and absorbing. The research does not tell us what that experience teaches, or whether it transfers to sober skill.



Part II · Practising Altered

Curiosity is the practice. Care is what makes it possible.

CHAPTER 5

What "Responsibly" Means



Practice everything altered responsibly.

— THE COMPILER

The word "responsibly" carries the weight of this whole Part. It is not a disclaimer tacked onto the end of an adventure. It is the set of conditions under which curious, altered practice becomes a way of learning rather than a way of getting hurt.

Research gives a surprisingly clear picture of what those conditions are. Clinical trials of psilocybin are, among other things, decades of careful experiment in making a powerful experience safe. Large surveys of people who use psilocybin on their own describe what goes wrong when those conditions are missing. This chapter turns both into five commitments: know the law, screen yourself honestly, never practise alone, prepare the space, and choose the right tools.

The law, briefly

Psilocybin is a controlled substance in most of the world. In the United States it remains in the most restrictive federal schedule, and in most countries possession is a criminal offence. A few places have created narrow legal frameworks. Two US states, Oregon and Colorado, have voter-approved systems of licensed, supervised psilocybin services; since 2023 Australia has allowed specially authorized psychiatrists to prescribe it for a small number of conditions; and some cit-

ies have deprioritized enforcement. These frameworks are specific, regulated, and changing. This book gives no legal advice. Learn the law where you are, and accept the consequences of what you choose.

Screen yourself honestly

The safety guidelines that shaped modern psilocybin research name the main risks plainly. The most likely one is "overwhelming distress during drug action ('bad trip'), which could lead to potentially dangerous behaviour." Prolonged psychoses triggered by hallucinogens are less common. The guidelines exclude people with a personal or family history of psychotic disorders or other severe psychiatric disorders (Johnson et al., 2008). Several specific risks deserve attention.

Psychosis and bipolar disorder. In a survey representative of the US adult population, lifetime psychedelic use was not associated overall with recent psychotic symptoms. But there was an interaction with family history: psychotic symptoms were highest among people who had used psychedelics *and* had a family history of psychotic or bipolar disorders (Simonsson et al., 2025). Clinical trials have excluded people with bipolar disorder, so the risk in that group is largely unstudied.

Lithium. An analysis of online experience reports found that 47% of 62 reports of a classic psychedelic taken with lithium described seizures, and 39% involved medical attention. None of 34 reports with the mood stabilizer lamotrigine did. The authors provisionally concluded that psychedelic use "may pose a significant seizure risk for patients on lithium" (Nayak et al., 2021). Other psychiatric medicines can also interact; discuss any medication with a doctor.

Heart and blood pressure. Psilocybin raises blood pressure and heart rate modestly in healthy people (Hasler et al., 2004; Holze et al., 2022; Straumann et al., 2024). People with heart disease or uncontrolled high blood pressure have generally been excluded from trials.

Persisting perceptual changes. Hallucinogen persisting perception disorder (HPPD), in which visual disturbances recur long after the drug has worn off, appears to be "a genuine but uncommon disorder," sometimes lasting

months or years, though the data on it are limited (Halpern & Pope, 2003). A scoping review calls it "uncommon yet serious" (Doyle et al., 2022). In the US population survey, 1.3% of people who had used psychedelics reported having been told by a medical professional that they had HPPD (Simonsson et al., 2025).

In clinical trials. A 2024 meta-analysis of studies with 3,504 participants found no serious adverse events among healthy participants. Among participants with existing neuropsychiatric disorders, about 4% had serious adverse events, including worsening depression, suicidal behaviour, psychosis, and convulsive episodes (Hinkle et al., 2024). In a large trial in treatment-resistant depression, adverse events such as headache, nausea, and dizziness occurred in 77% of participants, and suicidal ideation or behaviour or self-injury occurred in every dose group (Goodwin et al., 2022).

● EVIDENCE: WELL-ESTABLISHED

Psilocybin is physiologically low in toxicity, but it has specific psychiatric and medical risks. Risks are greater with a personal or family history of psychosis or bipolar disorder, with lithium, and in people with existing psychiatric illness. HPPD is uncommon but real (Johnson et al., 2008; Halpern & Pope, 2003; Nayak et al., 2021; Hinkle et al., 2024; Simonsson et al., 2025).

⚠ CAUTION

Do not practise altered if any of these apply: a personal or family history of psychosis, schizophrenia, or bipolar disorder; taking lithium; heart disease, uncontrolled high blood pressure, or a history of seizures; pregnancy; a current mental health crisis; or taking other psychiatric medication without having discussed it with a doctor. This list is not complete. It is not medical advice. If you are unsure, the answer is no.

Never practise alone

In clinical trials, psilocybin sessions are attended by at least two trained monitors who have built trust with the volunteer beforehand (Johnson et al., 2008). Outside the laboratory, the difference that support makes is visible in the data.

In a survey of 1,993 people describing their single most difficult psilocybin experience, 11% said they had put themselves or others at risk of physical harm, 2.6% had behaved aggressively or violently, and 2.7% had received medical help. The factors that increased the risk of harm included the estimated dose, how long and how difficult the experience was, and the *absence of physical comfort and social support* (Carbonaro et al., 2016). In a global survey of 9,233 people who had used magic mushrooms in the past year, 0.2% had sought emergency medical treatment; the most common reasons given were poor mindset, poor setting, and mixing substances (Kopra et al., 2022).

For a practitioner, the lesson is direct. A sober, experienced, trusted **sitter** is the single most important piece of safety equipment in an altered session. Their job is not to coach. It is to keep the space safe, to notice when something is going wrong before you do, to stop the session if needed, and to be a calm human presence if fear arrives.

● EVIDENCE: WELL-ESTABLISHED

Support and setting reduce harm. Laboratory safety guidelines require trained monitors and a safe environment (Johnson et al., 2008). In naturalistic surveys, the absence of comfort and social support, poor setting, and mixing substances are linked to harm and emergency visits (Carbonaro et al., 2016; Kopra et al., 2022).

Set and setting

"Set" is the mindset you bring; "setting" is the physical and social environment. The idea has a long history in psychedelic research, and it has been compared with placebo theory: both hold that expectations, preparation, and beliefs shape the response to a drug (Hartogsohn, 2016). A prospective study of people planning their own psychedelic experiences found that having "clear intentions" was conducive to mystical-type experiences, while a positive set decreased the likelihood of a challenging experience. Baseline personality traits had the strongest effect on later changes in wellbeing (Haijen et al., 2018).

For a practice session, set means arriving rested, unhurried, and emotionally steady, with a simple, curious intention: *today I want to watch how my weight*

moves in the circle walk, or *today I want to feel where the spiral starts*. Setting means a familiar, private, warm, uncluttered space.

A safe space for altered practice

- A sober, experienced sitter is present for the whole session and has agreed to stop it if needed.
- The floor is open, flat, and non-slip, with soft surfaces nearby. No glass, sharp corners, stairs, or open water.
- Heavy implements, live weapons, and steel or rigid training equipment have been put away or locked out of reach beforehand.
- No driving, cycling, cooking, or other hazardous tasks for the rest of the day.
- Water, warm clothing, and a comfortable place to sit or lie down are close at hand.
- No mixing with alcohol or other drugs.
- A phone is available to the sitter for emergencies.
- Either of you can end the movement part of the session at any time, for any reason, without discussion.

Choose the right tools

The compiler's own testimony includes practice with weapons, heavy implements, bagwork, and dummy training under psilocybin. This book respects that history and does not lecture about it. It does, however, draw one firm line, and the line comes from the research in Chapter 4.

Psilocybin measurably slows the voluntary speed of movement and disrupts longer timing (Wittmann et al., 2007), reduces attention (Hasler et al., 2004), impairs psychomotor performance (Barrett et al., 2018) and balance (Carbonaro et al., 2018), and alters the processing of surprising touch (Duerler et al., 2021). Every one of those changes matters more as the mass, speed, and hardness of what you are handling increases.

A 6 lb iron ball dropped from a juggling arc is not a soft ball. A 25 lb bar swinging in a ring is not a stick. A steel-armed dummy meets a misjudged strike

with steel. A live blade does not forgive a slipped grip. And a sparring partner is another person whose safety depends on your timing and restraint. The source document draws the same line: "Do not practice sparring, weapons work, or high-risk movements while in any altered state."

Tools for sober practice and for altered sessions.

Sober practice	Altered session substitute	Why
Iron or steel balls (e.g. 6 lb)	Soft juggling balls, beanbags, or a single soft ball	Dropped weight, impact on feet and hands
Heavy bar or ring (e.g. 25 lb)	A light wooden or bamboo stick, or empty hands	Momentum is hard to stop when timing slips
Steel-armed or rigid dummy at force	Light touch and slow tracing only, on a padded or wooden dummy	Altered touch processing, impact injury
Heavy bag at power	Light touch, pushing, leaning, slow contact	Wrist and hand injury when alignment drifts
Live or sharp weapons	Foam or rubber trainers, or light sticks	Cuts and punctures
Partner sparring or fast drills	Slow solo flow, shadow work	Another person's safety

⚠ CAUTION

The line. In an altered session: no sparring or partner drills at speed, no live or sharp weapons, no heavy implements, no forceful striking of the bag or dummy, no inversions, jumps, or high-risk movements, and no training near hazards. Keep all of these for sober practice.

○ PRACTITIONER EXPERIENCE · PHILOSOPHY

Why this line is a judgement, not a measurement. No study has measured injury rates in any kind of training under psilocybin. The line is the compiler's judgement, drawn from what controlled studies show about timing, attention, balance, and touch, and from the source document's own safety boundaries.

If things get hard

Challenging experiences are common. Even among screened laboratory volunteers, anxiety and fear occur at high doses (Griffiths et al., 2011). When fear, confusion, or panic arrives during a practice session, the movement part of the session is over. Sit or lie down. Let the sitter take care of the space. Slow breathing, a blanket, a hand to hold, quiet music, and the reminder that this state is temporary are all forms of the interpersonal support that, in the laboratory, was enough to manage acute reactions (Studerus et al., 2011). If someone is in danger or medical symptoms appear, call emergency services.

Difficult experiences are not always wasted. In the survey of challenging experiences, 84% of respondents said they had benefited from them (Carbonaro et al., 2016). But that benefit came after the fact. In the moment, the only job is safety.

CHAPTER 6

Slow Forms, Circle Walking, and Tracing Spirals



Slow, mindful solo work deliberately tracing felt geometric pathways (spirals, circles, continuous arcs) with minimal muscular effort.

— FROM THE SOURCE DOCUMENT ON GEOMETRIC EXPRESSION IN THE MARTIAL ARTS

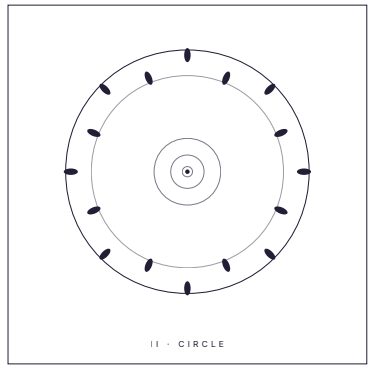


Plate 2 · The circle. An original geometric study made for this book.

Slow practice is the natural home of altered exploration. It asks little of fast timing, which psilocybin disrupts. It keeps the body close to its own centre of balance, which psilocybin makes less reliable. And it leaves room for the thing the altered state seems to offer most: a vivid, unusual, absorbing attention to what the body is actually doing.

This chapter offers explorations, not instructions. Every practice suggested here is untested. The point is curiosity: to notice, to compare, and to record, so that what you find can later be checked.

Why slow?

The research on Tai Chi gives some grounds for thinking slow, attentive movement trains the body's sense of itself. Long-term practitioners show better joint position sense at the knee (Tsang & Hui-Chan, 2003) and detect smaller movements at the ankle (Xu et al., 2004). A review of movement-based contemplative practices notes that the cultivation of interoceptive, proprioceptive, and kinesthetic awareness is said to lie at the core of practices such as yoga, qigong, and Tai Chi (Schmalzl et al., 2014). None of these studies involved psilocybin. They describe what slow, attentive practice does on its own.

There is also a reason in the physics of movement. The nervous system tends to plan movements to be as smooth as possible (Flash & Hogan, 1985), and when people draw curves, their speed falls where the curve tightens, following lawful relationships between speed and curvature (Huh & Sejnowski, 2015). Slow practice makes that lawfulness easier to feel. You can notice the hand slowing into the tight part of a spiral and lengthening out along the wide part.

> ● EVIDENCE: WELL-ESTABLISHED
>
> **Slow, attentive movement practice is associated with better body awareness.** Long-term Tai Chi practitioners show better proprioception (Tsang & Hui-Chan, 2003; Xu et al., 2004). Curved movements follow lawful, smooth patterns (Flash & Hogan, 1985; Huh & Sejnowski, 2015).

Before you begin: a sober baseline

The most useful thing you can do for an altered session happens days before it. Film yourself, sober, doing exactly the forms you plan to explore: one slow form, one minute of circle walking, one set of spiral tracings. Note in a journal how each felt. This baseline is what you will compare against later (Chapter 12).

Without it, you will have only memory, and memories of altered sessions are shaped by the same meaning-enhancement that colours the session itself (Hartogsohn, 2018).

Exploration 1: The slow form

Choose a short form or sequence you know well, so well that it runs without thought. Perform it once at your usual pace, then again at half that pace, then again more slowly still.

What to notice:

- **Where each turn begins.** Does the rotation start at the foot, the hip, the waist, or the hand? Does it feel different from how you have been taught it begins?
- **Weight transfer.** Where exactly is the weight at each moment? Can you feel the instant it passes the midpoint between the feet?
- **Resets.** The source document describes "micro-adjustments that reduce unnecessary resets." Where does the form stop and restart rather than flowing? Those are worth noting, not fixing.
- **The inner critic.** Is the voice that checks "correct form" quieter, louder, or absent? What does the movement do when it falls silent?
- **Time.** Ask your sitter to time the form with a stopwatch, without telling you the result. Afterwards, guess how long it took. Psilocybin disturbs the reproduction of longer intervals (Wittmann et al., 2007), so the difference between your guess and the stopwatch is a small, safe measurement of your own altered time sense.

> ○ PRACTITIONER EXPERIENCE · PHILOSOPHY
>
> **The slow form as a mirror.** The suggestion that a slow form, performed altered, reveals where turns begin and where resets hide is practitioner experience. Nobody has tested it. The time-estimation exercise draws on a measured effect (Wittmann et al., 2007), but its use in practice is the compiler's suggestion.

Exploration 2: Circle walking

Baguazhang's circle walk is a meditation on a central axis. The source document describes "circle walking and continuous spiraling palm changes," with "constant transformation and connection to a central axis." In sober practice, Baguazhang circle walking is a moderate-intensity exercise (Cao & Zhang, 2026).

In an altered session, walk a **wide** circle, slowly, around a soft marker such as a cushion on the floor, with your sitter outside the circle. Walk in one direction for a short while, then stop completely, stand, and breathe before reversing.

What to notice:

- **The centre.** Does attention to the marker hold you on the circle, or does the circle drift? Does the axis feel like it is in the marker, in your own spine, or somewhere between?
- **The feet.** How does the outer foot place itself compared with the inner? Is there a rhythm that wants to settle?
- **The palms.** If you make a palm change, move very slowly and keep your feet still while you do it. What does the turn feel like from the inside?
- **The visual field.** Does the room seem to rotate, stream, or form patterns? Psilocybin's visual effects can include movement and spiral or tunnel-like forms (Carbonaro et al., 2018; Bressloff et al., 2001). Notice whether these patterns follow your motion, or arise on their own.

> ⚠ CAUTION
>
> **Dizziness and balance.** Walking in circles challenges balance even when sober, and psilocybin impairs balance (Carbonaro et al., 2018). Keep the circle wide and the pace slow. Change direction only after a full stop. If the room starts to spin or your footing feels uncertain, stop, sit down, and let the session become a sitting one.

Exploration 3: Tracing spirals

The simplest geometric practice needs no space at all. Stand or sit comfortably, and with one hand, slowly trace a spiral in the air in front of you, starting small

and widening, then narrowing again. Then try a figure-eight. Then try both hands at once, mirroring or opposing.

What to notice:

- **Speed and curvature.** Does the hand slow where the curve tightens? Can you feel the arm, shoulder, and torso joining in as the spiral widens? This is the source document's "small circular deflections scale into whole-body spirals."
- **The helix in the forearm.** The source document describes "heightened sensitivity to helical twisting through the torso and limbs." As the hand traces, can you feel the forearm rotate? Where does that rotation travel next?
- **Seen versus felt.** Close your eyes and trace. Open them and trace. Is the spiral you *feel* the same as the one you *see*? Some of the geometry of an altered visual field comes from the visual cortex itself (Bressloff et al., 2001). The felt spiral, traced with eyes closed, is less likely to be borrowed from it.
- **Effort.** The source document recommends "minimal muscular effort." What is the least effort that still produces a clean spiral?

> ○ PRACTITIONER EXPERIENCE · PHILOSOPHY
>
> **Seen and felt spirals.** The suggestion to compare eyes-open and eyes-closed tracing comes from the compiler. It rests on a real finding, that geometric hallucinations reflect visual cortex architecture (Bressloff et al., 2001), but the exercise itself is untested.

Attention inside and out

Research on attention in movement offers one more thing to explore. In sober practice, directing attention to the *effect* of a movement, rather than to the body parts making it, generally improves performance and learning (Wulf, 2013) and produces more fluent, automatic movement (Kal et al., 2013).

In an altered session, try both deliberately. For one spiral, attend to the path of the fingertip through space. For the next, attend to the feeling in the elbow

and shoulder. Notice which feels smoother, which feels stranger, and which you would want to film. Then, in a sober session afterwards, try both again.

Mostly stillness

Nothing in this chapter needs to fill a session. You may find that a few minutes of tracing, one slow form, or a single wide circle is more than enough to study, and that most of an altered experience is better spent sitting, resting, and letting it pass. Speak or record a few words about what you noticed while it is fresh, and let the movement end long before the experience does.

> ⚠ CAUTION
>
> **Stop if any of these appear:** dizziness or loss of balance; fear, confusion, or a sense of losing touch with where you are; chest pain, a racing heart, or breathlessness; or your sitter asks you to stop. The session becomes a sitting one.

CHAPTER 7

Free Form, Shadow Work, and the Soft Ball



Emphasis on continuous, non-repetitive chaining rather than discrete, reset-based technique.

— FROM THE SOURCE DOCUMENT ON GEOMETRIC EXPRESSION IN THE MARTIAL ARTS

Slow forms are a way of looking closely at known movement. Free form is a way of discovering movement you did not know you had. The source document describes "continuous kinetic chaining and flow states that escape rigid, linear technique sequences." The compiler lists free form and juggling among the practices he has explored altered. This chapter looks at three kinds of open, exploratory practice: free movement, shadow work, and light juggling with soft balls.

Free form

Free form means movement without a set sequence: one motion growing out of the last, following whatever path the body finds. In sober practice it is a way of training adaptability. The source document's phrase "continuous, non-repetitive chaining" captures the aim: no stops, no resets, no repeated drill, just one unbroken line of motion.

Free movement connects to research on **flow**, the absorbed state in which action seems to happen effortlessly. Research on flow in sport has grown sub-

stantially (Swann et al., 2012). An attentional account proposes that flow involves effortless attention, reduced self-referential thinking, and efficient, automatic control of action (Harris et al., 2017). Reduced self-referential thinking is also, as Chapter 3 described, one of the measured features of the psilocybin state (Carhart-Harris et al., 2012; Lebedev et al., 2015). Whether the two states resemble each other in movement has never been studied.

What to notice in free form:

- **Where the movement wants to go.** Begin with a single slow spiral of the hands and let it lead. What does the body do next if you do not decide?
- **Chains and breaks.** Where does the chain break into a pause or a reset? Is the break physical (loss of balance), mental (a decision), or emotional (a flicker of self-consciousness)?
- **Familiar fragments.** Do pieces of known forms appear unbidden? Which ones? Practised sequences are stored as chunks (Sakai et al., 2003), and a free movement that keeps returning to the same chunk is telling you something about your own repertoire.
- **The edge of balance.** Free movement drifts toward the limits of balance. Psilocybin impairs balance (Carbonaro et al., 2018). When you feel the edge, come back to centre.

◐ EVIDENCE: SUGGESTIVE · EMERGING

Flow is a measurable state with features that overlap with the psychedelic state. Both involve reduced self-referential thinking (Harris et al., 2017; Carhart-Harris et al., 2012). No study has compared them directly, or examined flow in movement under psilocybin.

Shadow work

Shadow work is fighting an imagined opponent: striking, evading, and moving as if someone were there. It is one of the oldest solo practices in every combat tradition, and it has a scientific cousin in research on **mental practice** and motor imagery. A meta-analysis of 303 imaging experiments found that imagining

movement recruits brain networks that overlap with those used in watching and performing it (Hardwick et al., 2018), and meta-analyses of behavioural studies find small but reliable benefits of mental practice on performance (Driskell et al., 1994; Toth et al., 2020).

In an altered session, shadow work becomes something stranger. The imagined opponent may feel vivid. The space may seem to contain lines, arcs, and geometries. And because psilocybin amplifies perceived meaning (Preller et al., 2017; Hartogsohn, 2018), each imagined exchange can feel deeply significant.

What to explore:

- **Slow shadow.** Move at a fraction of normal speed. Imagine the opponent's arm arriving, and trace your redirection as a spiral. Notice whether the geometry you feel matches what you have been taught.
- **The imagined partner's centre.** Where do you imagine the opponent's balance to be? How does your movement relate to it?
- **Emotional weather.** Shadow work under psilocybin can bring up feelings: aggression, fear, grief, or joy. Notice them, without acting them out. If fear or anger grows, stop and sit.
- **Distance.** Keep strikes well short of walls, furniture, and your sitter. Under altered perception, distance is easy to misjudge.

> ⚠ CAUTION
>
> **Slow and empty-handed.** Shadow work in an altered session should be slow, unarmed or with a foam trainer, and performed in open space well away from walls, furniture, and other people. No full-speed strikes, no kicks above waist height, no spins or jumps. Imagined opponents should stay imagined; never shadow toward a real person.

> ○ PRACTITIONER EXPERIENCE · PHILOSOPHY
>
> **Shadow work as a window into one's own fighting mind.** That altered shadow work reveals one's habitual patterns, fears, and geometries is practitioner experience. Mental practice in general is supported (Driskell et al., 1994; Toth et al., 2020), but altered shadow work has never been studied.

Light juggling with soft balls

Juggling is one of the best-studied skills in motor neuroscience. When adults learned a three-ball cascade over three months, grey matter expanded transiently in a region specialized for perceiving visual motion and in a region linking vision to action; the expansion decreased once practice stopped (Draganski et al., 2004). Expert jugglers show higher grey matter density in visual-motion regions, correlated with their performance (Gerber et al., 2014). Skilled cascade juggling relies on flexibly coupled timing between the two hands and the balls, not a rigid metronome (Beek & Turvey, 1992). The cascade itself traces a sideways figure-eight in the air.

For an altered session, the right tool is the one the science used: ordinary soft juggling balls or beanbags. A dropped soft ball bounces off a foot harmlessly. The heavy iron balls described in Book 1 do not.

What to explore:

- **One ball.** Toss one ball from hand to hand in a low arc. Watch the arc. Does it look like a curve, a sequence of positions, a trail, or a pattern? Psilocybin can bring textured, kaleidoscopic, and moving visual effects (Carbonaro et al., 2018). Which part of what you see is the ball, and which part is the seeing?
- **The rhythm.** Juggling rhythms are longer cycles, and psilocybin disrupts the reproduction and synchronization of longer intervals (Wittmann et al., 2007). Does the rhythm feel faster, slower, or stretched? Ask your sitter to film a short clip so you can compare its tempo with your sober baseline.
- **The figure-eight.** If you can cascade, do so slowly and low. Can you feel the figure-eight being drawn by the hands, or only see it in the balls?
- **The drop.** Notice what happens when a ball falls. Does self-criticism arrive? Does it matter? The quieting of self-referential concern that the source document describes may show up here first.

● EVIDENCE: WELL-ESTABLISHED

Juggling ordinary balls is a well-studied skill. Learning it produces measurable, partly transient changes in brain regions for visual motion (Draganski et al., 2004; Gerber et al., 2014), and skilled juggling depends on flexible timing between the hands (Beek & Turvey, 1992). No study has examined juggling under psilocybin.

Expect to perform worse

It is worth saying plainly: if you juggle, shadow, or move freely under psilocybin, you should expect to perform less well than when sober. Psychomotor performance, working memory, and visual perception are all impaired in a dose-dependent way (Barrett et al., 2018). Juggling will probably drop more balls. Free form will probably wobble more.

That is not a failure. The purpose of an altered session, in the compiler's philosophy, is not performance but understanding: "to bring curiosity to practice while altered." A dropped ball, a wobble, a broken chain are data. They are what the changed nervous system does. Noticing them with interest rather than frustration may be the most valuable thing the session teaches.

CHAPTER 8

Touch: The Bag, the Dummy, and the Listening Hand

Partner work oriented toward listening, blending, and following natural lines of force rather than imposing sequences.

— FROM THE SOURCE DOCUMENT ON GEOMETRIC EXPRESSION IN THE MARTIAL ARTS



Plate 3 · The lattice. An original geometric study made for this book.

Touch is where martial practice becomes most honest. A bag, a dummy, or a partner's arm tells you immediately whether your alignment is true, whether your weight is behind your hand, and whether your timing was early or late. The compiler includes bagwork and dummy training among the practices he has explored under psilocybin.

This chapter brings together what research says about contact training: the wooden dummy, Wing Chun, conditioning of the forearm and hand, push hands, and the role of touch in learning. It is, frankly, a thin literature. It then describes how to explore touch, lightly, in an altered session.

The wooden dummy: what is known

The wooden dummy, or *mook yan jong*, is a post with protruding arms and a leg, used in Wing Chun and related arts to rehearse contact, angles, footwork, and transitions against a fixed structure. Practitioners describe its value in terms of contact feedback: the arms rebound and redirect, the trunk sets the distance, and the angles teach the practitioner where their own centreline is.

There are no published scientific studies of wooden dummy training. A search of PubMed at the time of writing found none on the mook yan jong, on dummy training in any martial art, on contact rebound, or on the sensitivity that dummy work is said to build. The broader research on Wing Chun consists of a handful of papers: an early physiological study showing that Wing Chun exercise is more demanding than Tai Chi (Schneider & Leung, 1991), a small motion-capture study of punching sequences in four experienced practitioners (Fuchs et al., 2017), and an essay proposing a framework for wellbeing through Wing Chun's principles (Watson & Kemp, 2025).

What follows are the nearest scientific neighbours to dummy work. None of them studied a dummy.

> ◐ EVIDENCE: SUGGESTIVE · EMERGING
>
> **Dummy training has no direct research base.** No study has examined the mook yan jong or similar apparatus. Wing Chun itself has been studied only in a few small physiological and biomechanical papers (Schneider & Leung, 1991; Fuchs et al., 2017).

Forearm and bone: the conditioning question

Dummy work, like much traditional training, involves repeated contact between the forearms and a hard surface. Practitioners often describe the forearms as becoming "conditioned." What can be said about this?

Bone responds to loading. Studies of racquet and throwing athletes show that their loaded arms develop larger and stronger bones than their non-loaded arms, with changes in shape and size as well as density (Bass et al., 2002; Warden et al., 2014). In a one-year study of previously inactive young men, those who took part in recreational Kung Fu twice a week increased bone mineral density in the forearm and radius, along with strength and fitness, while a control group did not (Khalil et al., 2023). That study did not involve dummy work specifically, and its groups were not described as randomized.

Bone needs rest. In a classic study in rats, the same daily number of loading cycles built stronger bone when split into four short bouts separated by hours than when given all at once (Robling et al., 2002). Bone cells desensitize to repeated loading and need time to recover their sensitivity, which suggests that exercise for bone should use brief, dynamic sessions with rest between them (Turner & Robling, 2003).

Hard conditioning has costs. An early medical report on serious karate hand-conditioners described a technique of building callus over deliberately damaged tissue and concluded that serious hand conditioning was unnecessary and "not recommended" (Larose & Sik, 1969). Hand and wrist injuries are common in the striking arts, and protection and good technique reduce the risk (Diesselhorst et al., 2013; Drury et al., 2017).

◐ EVIDENCE: SUGGESTIVE · EMERGING

Martial arts loading can strengthen forearm bone, but dummy conditioning is untested. Recreational Kung Fu increased forearm bone density in one non-randomized study (Khalil et al., 2023), consistent with what is known about bone and loading (Bass et al., 2002; Warden et al., 2014). Whether dummy contact conditions bone or soft tissue, and how much is too much, has not been studied.

The listening hand: push hands and contact sensitivity

The closest the research comes to "contact sensitivity" is a handful of studies of Tai Chi push hands.

Force-plate studies show that push hands is, mechanically, a gentle practice. In ten practitioners, the total force under both feet stayed almost exactly equal to body weight through every phase of attack and defence, which the authors interpret as meaning that practitioners "do not push or resist their opponents" in the ordinary sense (Chang et al., 2014). In another group of ten, vertical foot forces during push hands were lower than in walking or Tai Chi gait (Wong et al., 2013). In the single-case study described in Chapter 2, an experienced master neutralized pushes with subtle postural adjustments that shifted the incoming force to the rear leg, while inexperienced people lost their balance (Chen et al., 2010). And when long-term push hands practitioners were suddenly released from a horizontal load, they responded with smaller vertical force spikes and slower backward knee movement than controls, suggesting better reactive postural control (Sever et al., 2021).

Together, these studies support a modest version of the "listening" idea. Skilled practitioners deal with incoming force by adjusting posture and redirecting it into the ground, rather than meeting it with muscle. None of them measured touch sensitivity directly.

◐ EVIDENCE: SUGGESTIVE · EMERGING

Push hands is low-force and associated with good reactive balance. Small force-plate studies show near-body-weight ground forces and quieter responses to perturbation in experienced practitioners (Wong et al., 2013; Chang et al., 2014; Sever et al., 2021), and a single case shows skilled redirection (Chen et al., 2010).

Touch as a teacher

Motor learning research offers one more relevant idea. Feedback added to a movement, from a coach's voice, a visual display, or a physical device, can enhance learning, and recent technology has made it possible to study touch-based (haptic) feedback as well as visual and auditory feedback in complex, realistic

tasks (Sigrist et al., 2013). A dummy or a bag gives the practitioner a kind of natural haptic feedback with every contact: the arm moves or it does not; the bag swings straight or it twists.

Under psilocybin, that feedback channel itself changes. In the imaging study described in Chapter 4, psilocybin reduced the brain's response to surprising touch, and the reduction was associated with altered body- and self-experience (Duerler et al., 2021). Familiar contact may feel new. Contact that should feel *wrong*, the early twinge of a misaligned wrist, may be noticed less.

Exploring touch, lightly

These are explorations for an altered session. They are deliberately light. The point is to feel, not to hit.

The bag.

- Stand close to a heavy bag and place both palms on it. Lean gently into it, then let it push you back. Where in your body do you feel the push arrive?
- Push the bag slowly with one palm and follow it as it swings away and returns. Can you meet the return without bracing, the way push hands practitioners meet force by redirecting it?
- Touch the bag with the forearm and slowly roll the forearm across its surface. Notice the spiral in the forearm described in Chapter 6.

The dummy.

- With your hands resting lightly on the dummy's arms, trace slowly around them: over, under, and between. Feel the angles.
- Move slowly through a familiar sequence of positions with contact so light it would not dent a piece of paper. Notice where your centreline is relative to the dummy's trunk.
- Close your eyes, keep one hand on a dummy arm, and slowly step around. Can you feel the structure through one point of contact?

Self-touch.

- Place one hand on the opposite forearm and slowly rotate the forearm underneath it. Feel the bones turn. This is the "helical twisting" the source document describes, felt from outside.

⚠ CAUTION

Touch, not impact. In an altered session, contact with the bag and dummy should be light touch, leaning, pushing, and slow tracing only. No striking at speed or power, no conditioning, no forearm or shin impact, and never work on a steel-armed or rigid dummy. Psilocybin alters the processing of surprising touch (Duerler et al., 2021) and impairs psychomotor performance (Barrett et al., 2018), which removes the early warnings that protect wrists, knuckles, and forearms. Keep forceful contact training for sober sessions.

○ PRACTITIONER EXPERIENCE · PHILOSOPHY

What dummy and bag work feel like altered. The compiler's testimony includes bagwork and dummy training under psilocybin. What such practice teaches about contact, rebound, and sensitivity has never been studied. The light-touch explorations here are the compiler's suggestions.

CHAPTER 9

The Inner Senses: Experiments in Proprioception and Interoception



This is how you truly understand your mind and body.

— THE COMPILER

The source document names three channels through which perception may shift: "visual pattern recognition, proprioception, and interoception." The first is the most dramatic. The other two are quieter and perhaps more useful to a martial artist. **Proprioception** is the sense of where the body's parts are and how they are moving. **Interoception** is the sense of what is happening inside the body: heartbeat, breath, warmth, tension, hunger, the gut.

This chapter describes what is known about these senses, and then offers simple experiments that turn an altered session into something close to a personal laboratory. The experiments are designed to produce small, checkable observations rather than grand insights.

What is known

Proprioception can be trained. Long-term Tai Chi practitioners reposition the knee more accurately than controls (Tsang & Hui-Chan, 2003) and detect smaller passive ankle movements than sedentary people or long-term swimmers and runners (Xu et al., 2004).

Interoception has several dimensions. The anterior insula has been proposed as a key region for representing the body's internal state and for subjective feeling (Craig, 2009). Researchers distinguish interoceptive *accuracy*, measured by objective tests such as detecting one's own heartbeat; interoceptive *sensibility*, how good people believe they are; and interoceptive *awareness*, how well their confidence tracks their actual accuracy. In a sample of 80 people, these three dimensions were distinct, and accuracy was only partly predicted by the other two (Garfinkel et al., 2015). In other words, feeling that you are in touch with your body is not the same as being in touch with it.

Contemplative practice may change how bodily signals are interpreted. A review of interoception and contemplative practice proposes a predictive coding model of mind–body integration, describing a tension between expected and felt sensation, and suggests that contemplative practices may reduce maladaptive interpretations of bodily sensations (Farb et al., 2015).

Psilocybin alters the bodily self. As Chapter 4 described, psilocybin changes how the brain processes surprising touch, in ways linked to altered body- and self-experience (Duerler et al., 2021), and theorists propose that psychedelics alter the predictive processes that build a coherent bodily self (Ho et al., 2020). There appears to be no published controlled study of heartbeat detection or joint position sense under psilocybin.

> ● EVIDENCE: WELL-ESTABLISHED
>
> **Feeling in touch with the body and being accurate about it are different things.** Interoceptive accuracy, sensibility, and awareness are distinct and dissociable (Garfinkel et al., 2015). Proprioception is trainable through slow practice such as Tai Chi (Tsang & Hui-Chan, 2003; Xu et al., 2004).

That distinction is the key to this chapter. The altered state can make bodily sensations feel more vivid. Vividness is a change in sensibility. It may or may not be a change in accuracy. The only way to tell is to test.

Experiments for an altered session

Each experiment below is simple, safe, and produces a small observation that your sitter can record. Do each one sober first, to make a baseline, and again in the altered session. Afterwards, compare. These are informal self-observations, not scientific measurements; Chapter 11 explains their limits.

1. Mirror arms (joint position). Sit comfortably with your eyes closed. Your sitter gently lifts one of your arms to a position and holds it. Without looking, place your other arm in the mirror position. Your sitter photographs both arms. Repeat with three or four positions. Afterwards, compare the photographs from the sober and altered sessions. Did the mirroring become more accurate, less accurate, or about the same?

2. Weight centre. Stand with feet parallel, eyes closed, near a wall or your sitter. Shift your weight slowly toward the toes until you feel it arrive, then toward the heels, then side to side. Say "now" each time you think your weight is exactly centred. Your sitter notes how often your body was visibly upright and still at that moment. This is crude, but it brings attention to the felt centre that circle walking and push hands depend on.

3. Heartbeat counting. Sit quietly. For a period your sitter times, silently count the heartbeats you can feel, without touching your pulse. Your sitter counts your actual pulse at the wrist at the same time. Compare the two counts. Then rate, from one to ten, how confident you were. This is a simplified version of the kind of heartbeat task used in interoception research, and it separates accuracy from confidence (Garfinkel et al., 2015).

4. Breath edges. Breathe naturally and notice the precise moment each inhalation turns into exhalation. Is the turn a point, a pause, or a curve? Some practitioners describe the breath as circular. Does it feel circular now?

5. The spiral inside. Stand still and very slowly rotate the torso a little to one side and back. Where do you feel the twist? In the spine, the hips, the ribs, the belly? Draw it afterwards. The source document describes "heightened sensitivity to helical twisting through the torso and limbs." Compare your drawing with one made sober.

6. Time. Close your eyes and say "now" when you think one minute has passed. Your sitter notes the actual time. Psilocybin disturbs the reproduction of longer intervals (Wittmann et al., 2007); this gives you a direct, harmless glimpse of how your own time sense has shifted.

7. The self in the body. Lie down. Notice where "you" seem to be located: behind the eyes, in the chest, everywhere, nowhere. Notice whether the boundary between body and floor, or body and room, feels clear. Ego dissolution can include a dissolving of the border between self and world (Lebedev et al., 2015). Notice, without trying to change anything, and record what you can afterwards.

○ PRACTITIONER EXPERIENCE · PHILOSOPHY

Self-experiments in an altered state. These experiments are the compiler's suggestions for turning curiosity into checkable observations. They borrow the logic of research tasks but are not research. Expect your results to be noisy, and do not treat a single session as proof of anything.

⚠ CAUTION

Stillness is safe; standing is a choice. Most of these experiments can be done sitting or lying down. Experiment 2 involves standing with eyes closed; do it only near a wall or with your sitter's hands ready, and skip it if balance feels uncertain. Stop any experiment that brings fear, nausea, or confusion.

What the experiments can teach

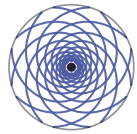
Two outcomes are especially interesting.

If your **accuracy** stays the same or worsens while your sense of **vividness** rises, you have learned something important about the altered state: that its feeling of heightened body awareness may be partly a change in how sensations are experienced rather than in how well they are detected. That is a valuable thing to know before trusting any insight from a session.

If your accuracy genuinely improves on some task, perhaps the mirror arms or the felt spiral, you have something worth following up in sober practice. Can you reproduce the improvement sober, using the same focus of attention? If so,

the altered state may have shown you a door that was already there. If not, the improvement may have been noise.

Either way, you will have done what the compiler's philosophy asks: studied your own mind and body directly, with curiosity, and written down what you found.



Part III · Pattern

A brain is a machine for finding patterns. It finds the real ones. It also finds the others.

CHAPTER 10

How Brains Find Patterns



Pattern recognition: Seeing how small circular deflections scale into whole-body spirals or how linear actions integrate into larger enclosing fields.

— FROM THE SOURCE DOCUMENT ON GEOMETRIC EXPRESSION IN THE MARTIAL ARTS

Pattern finding is at the heart of both martial skill and the psychedelic experience. A skilled fighter sees the shape of an attack before it lands. A skilled internal artist feels the spiral that connects a wrist deflection to a turn of the hips. And people under psilocybin often report that the world, their movement, and their own minds seem full of patterns and connections.

This chapter describes what science knows about how ordinary brains find patterns, and how experts come to see what novices cannot. The next chapter describes how brains find patterns that are not there, and how to tell the difference.

Chunks: the expert's alphabet

The classic work on expert pattern perception comes from chess. Research beginning in the 1970s proposed the **chunking theory** of expertise: that experts perceive and remember a position not piece by piece, but as a small number of meaningful groups, or chunks, held in a short-term memory of limited capacity (Chase & Simon, 1973). Later work refined it. When players ranging from club level to grandmaster were shown up to five chess positions in quick succession,

experts recalled more pieces than the original theory predicted; one chess master gradually learned to reproduce nine boards, placing as many as 160 pieces correctly. To explain this, the researchers proposed that experts also use larger long-term memory structures, called **templates**, into which new information can be slotted rapidly (Gobet & Simon, 1996).

A review of chunking across many areas of learning distinguishes two kinds: one "deliberate, under strategic control, and goal-oriented," and the other "automatic, continuous, and linked to perceptual processes" (Gobet et al., 2001). Movement has chunks too. When people practise sequences of movements, they spontaneously group them into chunks that become units of performance (Sakai et al., 2003).

For a martial artist, this is the scientific version of a familiar experience. A beginner sees an opponent's arm, shoulder, and step separately. An expert sees *a jab coming*. The same is true of internal practice: a beginner feels a wrist turn, a hip turn, and a weight shift; an experienced practitioner feels one spiral.

● EVIDENCE: WELL-ESTABLISHED

Experts perceive in chunks and templates. Expert memory and perception depend on learned, meaningful groupings of information, in chess and in many other domains (Chase & Simon, 1973; Gobet & Simon, 1996; Gobet et al., 2001). Practised movement sequences are also chunked (Sakai et al., 2003).

Statistical learning: patterns without trying

The brain also learns patterns automatically, without being told to look. In a famous experiment, eight-month-old infants listened to a continuous stream of nonsense syllables for just two minutes. From that brief exposure, they segmented "words" out of the stream, using nothing but the statistical relationships between neighbouring sounds (Saffran et al., 1996). Adults do the same with vision. People who passively watched scenes of shapes learned, rapidly and automatically, which shapes tended to occur together and in which arrangements. The authors connect this to a theory that the visual system works by detecting "suspicious coincidences" (Fiser & Aslin, 2001).

Perceptual learning, the improvement of sensory abilities with practice, can even happen outside the focus of attention. A unified model proposes that learning occurs when signals from the stimulus coincide in time with diffuse signals related to task performance and reward (Seitz & Watanabe, 2005).

This matters for practice in two ways. First, the patterns you absorb in training are not only the ones you consciously study. Repetitions of a form, a partner's habits, the rhythm of a bag, all teach the brain their statistics. Second, a brain built to detect "suspicious coincidences" will sometimes find coincidences that mean nothing.

● EVIDENCE: WELL-ESTABLISHED

Brains learn statistical patterns rapidly and automatically. Infants segment words from two minutes of speech (Saffran et al., 1996), adults learn visual co-occurrences passively (Fiser & Aslin, 2001), and perceptual learning can occur outside attention (Seitz & Watanabe, 2005).

Seeing the attack before it comes

Combat sports research shows how pattern perception becomes skill. A meta-analysis found that expert athletes are better than novices at picking up perceptual cues and anticipating what will happen next, using fewer, longer visual fixations (Mann et al., 2007). Karate experts responding to filmed attacks were more accurate at predicting the attack from very early cues, even though their simple reaction times were no faster than novices' (Mori et al., 2002). In on-mat karate tasks, experts detected a repeated attack pattern after only five repetitions, while novices did not (Milazzo et al., 2016). A motion-capture study of karate sparring found that the defender's reaction depended on the attacking technique, and that a leading-hand jab was easier to anticipate than a reverse punch or a round kick (Petri et al., 2017).

Expert pattern perception can also transfer. Karate experts were as good as taekwondo experts at anticipating taekwondo techniques, and even performed like domain experts when anticipating skills from Australian football, which near-experts could not. The authors suggest that transfer depends on expertise

and an understanding of principles, supplemented by similarities between domains (Rosalie & Müller, 2014).

The best way to study such expertise, researchers argue, is first to capture it with representative tasks in the laboratory, then trace the processes behind it, and then identify the practice that builds it (Williams & Ericsson, 2005).

● EVIDENCE: WELL-ESTABLISHED

Combat expertise is largely perceptual pattern recognition. Experts anticipate from early cues, detect repeated patterns quickly, and can transfer anticipation skill across related domains (Mann et al., 2007; Mori et al., 2002; Milazzo et al., 2016; Rosalie & Müller, 2014).

Geometry as a pattern

The source document's "pattern recognition" is a specific kind: "seeing how small circular deflections scale into whole-body spirals or how linear actions integrate into larger enclosing fields." In the language of this chapter, that is the formation of a larger chunk or template: perceiving many movements as one shape.

This is plausible, and it is how expertise generally develops. But it raises the question that drives the next chapter. Real pattern learning in experts comes from many thousands of exposures to real structure, with feedback that tells the learner when they are wrong. An altered session offers something different: a brain whose priors may be relaxed, whose sense of meaning is amplified, and whose visual system is generating geometric patterns of its own (Chapter 3). Patterns found in that state could be real structure, newly noticed. They could also be the brain's own geometry projected onto the movement.

What altered pattern perception might offer

There is no research on whether psilocybin helps anyone learn movement patterns. There are only hypotheses and testimony.

The REBUS hypothesis proposes that psychedelics relax high-level priors and free bottom-up information (Carhart-Harris & Friston, 2019). If that is right, a practitioner might perceive their movement with fewer of the expectations that normally filter it, and so notice structure they had overlooked. The ALBUS proposal adds that, in other conditions, priors may become *stronger* and be imposed on perception, as in pareidolia and apophenia (Safron et al., 2025). Both may happen in the same session.

○ PRACTITIONER EXPERIENCE · PHILOSOPHY

"Recognition rather than invention." The source document's stance is the right one for pattern finding. Treat every pattern seen in an altered session as a hypothesis about movement that already exists, to be recognized and tested sober, not as a new invention to be trusted on the strength of how it felt.

◐ EVIDENCE: SUGGESTIVE · EMERGING

Psychedelics and pattern learning: theory only. REBUS and ALBUS suggest that psychedelics might both loosen and strengthen the brain's perceptual expectations (Carhart-Harris & Friston, 2019; Safron et al., 2025). Neither has been tested on movement learning.

CHAPTER 11

False Patterns, and How to Check Them



Insights require subsequent sober training to become durable.

— FROM THE SOURCE DOCUMENT ON GEOMETRIC EXPRESSION IN THE MARTIAL ARTS

Every pattern-finding system makes two kinds of mistake. It can miss a pattern that is there. Or it can find one that is not. Psychologists call the second kind of mistake **illusory pattern perception**. Its everyday forms have names: **pareidolia**, seeing faces or shapes in random noise, clouds, or toast; and **apophenia**, perceiving meaningful connections between unrelated things.

A practitioner who explores altered states needs to understand these mistakes better than anyone, because the altered state is, among other things, a state of amplified pattern and amplified meaning. This chapter explains the science and then offers a practical method for checking whether a pattern found in an altered session is real.

Seeing faces in noise

The tendency to see patterns in noise is easy to provoke in ordinary people. In a brain-imaging study titled "Seeing Jesus in toast," participants viewed images of pure visual noise but were told that half of them contained a face or a letter. They reported seeing faces 34% of the time and letters 38% of the time, even though none were present. When they "saw" a face, the brain's face-processing

region responded. The authors conclude that face processing has "a strong top-down component whereby sensory input with even the slightest suggestion of a face can result in the interpretation of a face" (Liu et al., 2014).

Notice the ingredient that made the illusion work: *expectation*. The participants were told what to look for, and they found it.

Need, belief, and illusion

The urge to find patterns is not only perceptual; it is also motivational. In six experiments, people who had been made to feel a lack of control were more likely to see images in noise, form illusory correlations in stock market information, perceive conspiracies, and develop superstitions. Affirming their sense of self reduced the effect (Whitson & Galinsky, 2008). In another series of studies, perceiving patterns in random coin tosses and in chaotic paintings predicted belief in conspiracy theories and the supernatural (van Prooijen et al., 2018). A large signal-detection study of 723 people found that paranormal beliefs were linked to a more liberal response bias and lower perceptual sensitivity, driven by false alarms; the associations were modest compared with other sources of variation (Müller & Hartmann, 2023).

Not every chemical push toward pattern does the same thing. In a preregistered double-blind study, a drug that enhances dopamine transmission did not increase illusory pattern perception, though the authors note that the study's power was limited (Smith et al., 2024).

● EVIDENCE: WELL-ESTABLISHED

Illusory pattern perception is common, and expectation and motivation increase it. Expectation produces pareidolia in noise (Liu et al., 2014); lacking control increases illusory pattern perception (Whitson & Galinsky, 2008); and the tendency predicts unusual beliefs (van Prooijen et al., 2018; Müller & Hartmann, 2023).

Psychedelics and the feeling of significance

Psychedelics push on exactly the levers that produce false patterns. LSD caused volunteers to attribute personal relevance to previously meaningless stimuli (Preller et al., 2017). Psychedelics are thought to enhance the perception of significance in general (Hartogsohn, 2018). Psilocybin's visual system generates geometry of its own, in the form of lattices, cobwebs, tunnels, and spirals (Bressloff et al., 2001; Kometer et al., 2013). And the ALBUS model proposes that psychedelic states can involve "the imposition of prior expectations on perception (e.g. hallucinations and pareidolia)" and delusional thinking, including "apophenia, paranoia, engendering of inaccurate interpretations of events, and potentially false memories" (Safron et al., 2025).

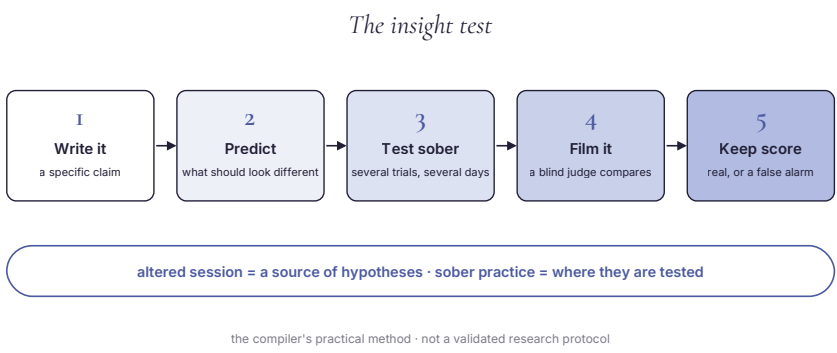
Now put these together with the setting of an altered martial practice session. A practitioner who expects to see spirals in movement, whose visual cortex is generating spirals, and whose sense of meaning is amplified, is primed to find spirals everywhere. Some of them will be real. The feeling of discovery will be equally strong for all of them.

◐ EVIDENCE: SUGGESTIVE · EMERGING

Psychedelics amplify meaning and can promote false pattern perception. LSD increased the attribution of personal relevance to meaningless stimuli (Preller et al., 2017). Theoretical models propose that psychedelics enhance meaning (Hartogsohn, 2018) and can involve pareidolia and apophenia (Safron et al., 2025). Direct tests of illusory pattern perception under psilocybin are lacking.

The insight test

How, then, can you check whether a pattern you found in an altered session is real? The answer is to turn the insight into a *prediction* about sober movement, and then to test the prediction in a way that does not depend on your own feelings.



The insight test. A simple path from an altered-session observation to a checked pattern.

Step 1. Write it down as a claim. Not "the spiral was everything," but something you could be wrong about: *When I let the deflection begin at the back foot rather than the hand, the turn is smoother and my head stays level.*

Step 2. Make a prediction. If the claim is real, what should be visibly different in a sober performance? *Head height should vary less; the form should have fewer visible pauses.*

Step 3. Test it sober, several times. Perform the movement sober, with and without the change, several times each, on more than one day. Single trials are noise; measurement scientists recommend multiple trials and warn that learning or fatigue can masquerade as real change (Hopkins, 2000).

Step 4. Film it, and let someone else judge. Film every trial from the same angle. Then ask a trusted training partner to watch the clips *without knowing which is which*, and to say which looks smoother, more connected, or more balanced. People are often poor judges of their own performance (Kruger & Dunning, 1999), and expectation alone can change performance in sport (Beedie & Foad, 2009). A blind judgement removes both problems.

Step 5. Keep score honestly. Did the blind judge pick the "insight" version more often than chance? Did the predicted measure change? If yes, you may have recognized something real. If not, the insight may have been a beautiful false alarm, and that is worth knowing too.

Signs that a pattern may be illusory

- It felt overwhelmingly significant but cannot be stated as a specific, testable claim.
- It explains *everything*: every movement, every art, every life event.
- It cannot be reproduced sober, even with effort and time.
- A blind judge cannot tell the "insight" version from the ordinary one.
- It came with a sense of special, secret, or exclusive knowledge.
- It conflicts with basic physics or anatomy, or with what skilled teachers can see.

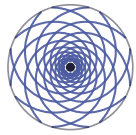
Recognition, again

The source document's stance, "recognition rather than invention," is a natural guard against false patterns. If the geometries are "already latent in efficient movement," then a real insight should make sober movement measurably more efficient, and an illusory one will not. The document also states the test directly: "Insights require subsequent sober training to become durable."

The insight test is not a way of dismissing altered experience. It is a way of honouring it. A pattern that survives sober replication and a blind judge is no longer just a feeling. It is knowledge.

○ PRACTITIONER EXPERIENCE · PHILOSOPHY

The insight test. This method is the compiler's suggestion, built from general principles of measurement and bias (Hopkins, 2000; Kruger & Dunning, 1999; Beedie & Foad, 2009). It is a practical safeguard, not a validated research protocol.



Part IV · Carrying It Home

What you saw in one afternoon becomes yours only in a hundred ordinary ones.

CHAPTER 12

Integration: Journal, Trace, Film, Test



Any insights gained through temporary perceptual shifts are useful only when deliberately carried into regular practice.

— FROM THE SOURCE DOCUMENT ON GEOMETRIC EXPRESSION IN THE MARTIAL ARTS

In psychedelic research, **integration** means the work done after an experience to make sense of it and carry what was valuable into ordinary life. In this book, integration is a companion to altered practice rather than its goal. The session is where the curiosity happens. Integration is how the curiosity becomes something that lasts.

The source document puts it plainly: "Insights require subsequent sober training to become durable," and geometric awareness is "a lens for refining existing practice, not a replacement for progressive, disciplined training." This chapter describes four tools for that work: the journal, sober tracing, filmed comparison, and the insight test from Chapter 11.

Why integration matters

The research on psilocybin's lasting effects is, in one sense, research on integration. In laboratory studies, volunteers rated their psilocybin sessions as among the most meaningful experiences of their lives months later (Griffiths et al., 2006; Griffiths et al., 2008). In a prospective study of people taking psychedelics

on their own initiative, wellbeing increased two weeks afterwards and stayed raised at four weeks (Haijen et al., 2018). But in that same study, baseline traits explained more of the change in wellbeing than anything about the experience itself. What a person brings to the experience, and what they do with it, seems to matter as much as the experience.

For skill, the logic is even simpler. Skill changes through repeated practice over time. Bone adapts over months (Warden et al., 2014). Habits take weeks to months to become automatic (Lally et al., 2010). Grey matter changes associated with learning to juggle faded when practice stopped (Draganski et al., 2004). Whatever an altered session shows you, it will last only if it is practised.

Tool 1: The journal

Write within a day of the session, while memory is fresh, and again a week later. Memories of altered states are shaped by the same meaning-enhancement that colours the experience (Hartogsohn, 2018), so writing early captures more detail, and writing later shows what still seems important.

What to record:

- **Observations.** What did you notice in each practice: where the turn started, how the circle felt, what the bag felt like, what happened in each experiment? Be concrete.
- **Measurements.** Your sitter's notes: the stopwatch times, the photographs, the heartbeat counts.
- **Claims.** Which observations would you like to test? Write each as a specific claim (Chapter 11).
- **Feelings.** What emotions came up? Was there fear, grief, joy, or aggression? Feelings are part of studying the mind.
- **Surprises and difficulties.** What went wrong, felt bad, or did not match expectations?

A template is provided in the Appendix.

Tool 2: Sober tracing

In the days after a session, return to the movements you explored, sober, and slowly. The source document describes this as "slow, mindful solo work deliberately tracing felt geometric pathways (spirals, circles, continuous arcs) with minimal muscular effort."

Try to find, sober, what you felt altered. Trace the spiral. Walk the circle. Lean into the bag. Close your eyes and feel the forearm turn. Sometimes the sensation will be there, fainter but recognizable. Sometimes it will not. Both are information.

Then map what you find onto your existing practice: "mapping observed or felt patterns onto existing forms, bag work, or partner exercises," in the source document's words. A spiral that started in the back foot in a tracing exercise can be looked for in the form, then on the bag, and eventually, in sober partner practice, in a push hands exchange.

Tool 3: Filmed comparison

If you filmed a sober baseline before the session (Chapter 6), film the same movements again, sober, a week after the session, and again a month later. Same angle, same distance, same lighting, same clothing if possible.

Then compare. Watch the clips side by side. Better still, ask a training partner to watch them without knowing which is which (Chapter 11). Look for specific, visible things: head height, pauses, the line of the spine, the path of the hand, the timing of the feet. A filmed comparison protects against the most common error after an intense experience, which is believing that something has changed because it *felt* as though it had.

> ● EVIDENCE: WELL-ESTABLISHED
>
> **Self-judgement is unreliable; blind comparison helps.** People often misjudge their own performance (Kruger & Dunning, 1999), and expectation can change performance (Beedie & Foad, 2009). Comparing filmed trials, with an outside judge who does not know which is which, reduces these biases.

Tool 4: Sober replication

The final test of an altered-session insight is whether it can be practised and reproduced sober, over weeks, by the ordinary methods of skill learning. If it can, the altered session pointed to something real. If it cannot, nothing has been lost except a hypothesis.

A useful attitude is to treat the altered session as a scout and the sober practice as the army. The scout can see over the hill. The army has to walk there.

When integration is hard

Not every session leaves behind insights. Some leave behind fear, confusion, or distress. In the survey of challenging psilocybin experiences, 7.6% of those whose experience had happened more than a year earlier had sought treatment for lasting psychological symptoms (Carbonaro et al., 2016). If an experience leaves you anxious, unable to sleep, seeing persistent visual disturbances, or feeling disconnected from yourself or reality, speak to a doctor or mental health professional. There is no shame in it, and it is part of practising responsibly.

⚠ CAUTION

Give it time. Avoid major life decisions in the days after an intense experience. Do not test an insight in sparring, with weapons, or with heavy implements until it has been reproduced in slow, sober practice. And remember that insights about the world, about other people, or about your own specialness deserve even more scepticism than insights about a spiral.

○ PRACTITIONER EXPERIENCE · PHILOSOPHY

Integration as practice. The four tools in this chapter are the compiler's suggestions. They follow the source document's integration principles and general research on skill and bias. They have not been tested as a method.

CHAPTER 13

The Same Doors Without the Key: Sober Paths



Geometric awareness is presented as a lens for refining existing practice, not a replacement for progressive, disciplined training.

— FROM THE SOURCE DOCUMENT ON GEOMETRIC EXPRESSION IN THE MARTIAL ARTS

Many of the qualities practitioners hope to find in altered practice can also be approached without any substance at all: a vivid sense of geometry in movement, a quieter inner critic, a deeper feel for the body, a sense of connection. Some of these sober paths have far more research behind them than psilocybin does. For a reader who cannot or will not use psilocybin, and that includes anyone screened out in Chapter 5, this chapter is the way in. For a reader who does practise altered, it is the daily ground that makes the occasional altered session worth anything.

Slow forms and Tai Chi

The research in Chapter 2 is itself a sober path. Tai Chi improves balance and reduces falls (Huang et al., 2017; Sherrington et al., 2019), and long-term practitioners show finer proprioception (Tsang & Hui-Chan, 2003; Xu et al., 2004). Movement-based contemplative practices such as yoga, qigong, and Tai Chi are said by their practitioners to cultivate interoceptive, proprioceptive, and kinesthetic awareness at their core (Schmalzl et al., 2014). Every exploration in

Chapter 6, the slow form, the circle walk, the spiral tracing, and the eyes-open and eyes-closed comparison, can be done sober, daily, for years.

Meditation and the quiet self

Chapter 3 described how psilocybin reduces activity and connectivity in hubs of the default mode network, the brain system linked to mind-wandering and self-referential thought (Carhart-Harris et al., 2012). Experienced meditators also show reduced activity in main nodes of this network during meditation (Brewer et al., 2011). People's minds wander a great deal in daily life, and they tend to be less happy when they do (Killingsworth & Gilbert, 2010).

Meditation's measured benefits are real but modest. A major systematic review found moderate evidence that mindfulness meditation programmes improve anxiety, depression, and pain, with small-to-moderate effects (Goyal et al., 2014). Claims beyond that, especially about dramatic transformations, are often overstated (Van Dam et al., 2018).

A careful comparison of meditation and psychedelic states concluded that both can disrupt self-consciousness, but that neither is a single uniform category, and that "self-loss" can take several forms, narrative and embodied (Millière et al., 2018). Reviews of self-transcendent experiences, including mindfulness, flow, and awe, characterize them by a decrease in the salience of the self *and* an increase in feelings of connection (Yaden et al., 2017).

● EVIDENCE: WELL-ESTABLISHED

Meditation has modest, real benefits and quiets the self-referential brain. Mindfulness programmes produce small-to-moderate improvements in anxiety, depression, and pain (Goyal et al., 2014), and experienced meditators show reduced default mode network activity (Brewer et al., 2011). Larger claims are often overstated (Van Dam et al., 2018).

When meditation and psilocybin meet

Two studies have looked at what happens when meditation and psilocybin are combined, both in carefully controlled, supervised research settings.

In a double-blind study of 39 experienced meditators on a five-day mindfulness retreat, psilocybin increased meditation depth and the incidence of positively experienced self-dissolution "without concomitant anxiety," and produced larger positive changes in psychosocial functioning at four months, compared with placebo. The authors concluded that "meditation seems to enhance psilocybin's positive effects while counteracting possible dysphoric responses" (Smigielski et al., 2019).

In a randomized trial, healthy volunteers began a programme of meditation and spiritual practice and later received psilocybin or a very low comparison dose. At six months, the higher-dose groups showed large positive changes in measures including interpersonal closeness, gratitude, life meaning, and forgiveness, corroborated by community observers. The determinants of these enduring effects were the mystical-type experience *and* the rates of meditation and spiritual practice (Griffiths et al., 2018).

These are not studies of martial practice. But they point to the same principle as this book's integration chapter: what a person practises, before and after, shapes what an altered experience becomes.

◐ EVIDENCE: SUGGESTIVE · EMERGING

Meditation practice may shape and sustain psilocybin's effects. In supervised research settings, meditation practice was associated with deeper, less anxious experiences and more enduring positive change (Smigielski et al., 2019; Griffiths et al., 2018). These are single studies with selected participants.

Breath

Slow, deliberate breathing is the oldest tool in the internal arts, and one of the best-studied sober practices. A systematic review of slow breathing found that it is associated with changes in heart rate variability, brain activity, and psychological wellbeing, including greater relaxation and less anxiety (Zaccaro et al., 2018). Heart rate variability biofeedback, a structured form of slow breathing, has been proposed to work through the baroreflex, the body's blood-pressure regulation loop (Lehrer & Gevirtz, 2014). A meta-analysis of twelve randomized

trials found that breathwork was associated with lower stress than control conditions, with a small-to-medium effect, and with similar effects on anxiety and depressive symptoms; the authors urge caution about "a miscalibration between hype and evidence" (Fincham et al., 2023).

For a practitioner, breathwork is both a sober path and a safety tool. The same slow breathing that calms the body in daily practice is a way to steady oneself if an altered session becomes frightening.

● EVIDENCE: WELL-ESTABLISHED

Slow breathing and breathwork reduce stress modestly. Systematic reviews and meta-analyses support small-to-medium benefits for stress, anxiety, and mood (Zaccaro et al., 2018; Fincham et al., 2023).

Flow

Flow, the state of effortless absorption in action, may be the sober experience closest to what practitioners describe in altered movement. Research on flow in sport is growing (Swann et al., 2012), and an attentional account proposes that it involves effortless attention, reduced self-referential thinking, and efficient, automatic control of action (Harris et al., 2017). Flow tends to arise when the challenge of an activity is matched to skill, and when attention is fully absorbed. Free form, slow forms, and juggling at the edge of one's ability are all ordinary ways of inviting it.

Mental imagery

Shadow work and mental practice, described in Chapter 7, are fully available sober. Imagining movement recruits brain networks that overlap with those used in performing it (Hardwick et al., 2018), and mental practice has small but reliable benefits on performance (Driskell et al., 1994; Toth et al., 2020). A practitioner who closes their eyes and slowly imagines a spiral running from the back foot through the hips to the hand is training something real.

A sober practice for every altered one

Every altered exploration in this book has a sober counterpart.

Altered exploration	Sober counterpart
Slow form, noticing where turns begin	Daily slow form at half speed, with filming
Wide circle walking	Daily Baguazhang-style circle walking
Tracing spirals, eyes open and closed	Spiral tracing as a daily warm-up
Free form	Free movement practice; flow at the edge of skill
Shadow work	Slow shadow work; mental imagery
Light juggling	Juggling practice with progression
Light touch on bag and dummy	Push hands; graded contact training
Inner-sense experiments	Body-scan meditation; heartbeat and breath awareness
Quiet of the inner critic	Meditation; external focus of attention

None of these sober paths will produce the vivid strangeness of the altered state. But they can be practised every day, safely, legally, alone, and for a lifetime. Most of the measured benefits in this book come from them.

CHAPTER 14

Consciousness, Measured and Unmeasured



Individual results vary; integration and consistent practice remain essential.

— FROM THE SOURCE DOCUMENT ON GEOMETRIC EXPRESSION IN THE MARTIAL ARTS

The owner of this project hopes these books will help facilitate an upgrade in human consciousness. Of all the fields of science this series has touched, psilocybin research comes closest to studying that hope directly. It has measured experiences that people describe as among the most meaningful of their lives, and lasting changes that follow them. It has also, more than most fields, had to reckon with how hard such things are to measure fairly. This final chapter sets out both.

Experiences of a lifetime

In a landmark double-blind study, 36 hallucinogen-naive adults who regularly took part in religious or spiritual activities received psilocybin and an active comparison drug in supportive conditions. Psilocybin occasioned experiences similar to spontaneously occurring mystical experiences. Two months later, volunteers rated the experience as having substantial personal meaning and spiritual significance and attributed lasting positive changes in attitudes and behaviour to it, changes that were consistent with ratings by community observers (Grif-

fiths et al., 2006). At fourteen months, 58% and 67% of volunteers rated the experience among the five most personally meaningful and most spiritually significant of their lives, respectively, and 64% reported that it had increased their wellbeing or life satisfaction (Griffiths et al., 2008).

Such experiences seem to matter for what follows. Openness to experience, a personality trait usually stable in adulthood, increased after a high-dose psilocybin session, and remained higher more than a year later in participants who had had a mystical experience (MacLean et al., 2011). In patients receiving psilocybin for depression, the strength of the "oceanic boundlessness" dimension of the experience predicted clinical outcomes (Roseman et al., 2018). In a large survey, the link between mystical and insightful experiences and later reductions in depression and anxiety was fully mediated by increases in psychological flexibility (Davis et al., 2020).

● EVIDENCE: WELL-ESTABLISHED

Psilocybin can occasion mystical-type experiences that people rate as among the most meaningful of their lives. Controlled studies with follow-up show sustained personal meaning and attributed positive change, corroborated by observers (Griffiths et al., 2006; Griffiths et al., 2008; MacLean et al., 2011).

In the clinic

Clinical trials have tested psilocybin, given with psychological support, for several conditions. In two randomized trials in people with cancer, psilocybin produced substantial and sustained reductions in depression and anxiety (Griffiths et al., 2016; Ross et al., 2016). In a small trial for major depression with a waiting-list control, effects were large (Davis et al., 2021). In a double-blind comparison with the antidepressant escitalopram, the difference on the primary outcome was not statistically significant (Carhart-Harris et al., 2021). In the largest trial, in 233 people with treatment-resistant depression, the highest dose reduced depression scores more than a very low dose at three weeks, but sustained response at twelve weeks was not clearly supported, and adverse events were common (Goodwin et al., 2022).

The brain that rewires (in mice)

Some of the most-quoted findings about psilocybin and "rewiring" come from animals. In mice, a single dose of psilocybin led to roughly 10% increases in the size and density of dendritic spines, the tiny structures where neurons connect, in the frontal cortex; the growth appeared within 24 hours and persisted a month later (Shao et al., 2021). Psychedelics also promoted the growth of neuron branches and connections in cultured neurons and in animals (Ly et al., 2018).

These are important findings. They are not human findings. Whether anything similar happens in a human practitioner's brain, and whether it would help or hinder the learning of a movement skill, is unknown.

> ◐ EVIDENCE: SUGGESTIVE · EMERGING
>
> **Neuroplasticity: animal and cell studies only.** Psilocybin increased dendritic spine growth in mice (Shao et al., 2021), and psychedelics promoted neural plasticity in cultured neurons and animals (Ly et al., 2018). There is no evidence that this translates into improved skill learning in humans.

The hardest problem: knowing what you know

Psychedelic research has had to confront a problem that also runs through this whole book. When an experience is this vivid, everyone knows who got the real thing.

A review of psychedelic trials argued that their effect sizes are likely overestimated because participants can tell whether they received the drug, and because expectations of benefit are high; most trials had not even measured these confounds (Muthukumaraswamy et al., 2021). Another review notes that the effects of a high dose are so pronounced that masking is difficult, and that media hype raises participants' expectations, making trials "highly susceptible to large placebo and nocebo effects" (Aday et al., 2022).

A striking demonstration comes from microdosing. In a self-blinding study, 191 people who microdosed psychedelics followed instructions to mix real doses with placebos without knowing which was which. Both groups improved on

every psychological outcome; the placebo group improved just as much, and the small acute differences could be explained by participants breaking the blind. The authors concluded that the anecdotal benefits of microdosing "can be explained by the placebo effect" (Szigeti et al., 2021).

At the level of the population, a survey of 130,152 adults in the United States found no association between lifetime psychedelic use and mental health problems; in several cases, use was associated with fewer problems (Krebs & Johansen, 2013). Like all such surveys, it cannot establish cause.

● EVIDENCE: WELL-ESTABLISHED

Expectancy and unblinding make psychedelic effects hard to measure. Reviews conclude that trial effect sizes are probably overestimated (Muthukumaraswamy et al., 2021; Aday et al., 2022), and in a self-blinding microdosing study, placebo matched the active dose (Szigeti et al., 2021).

What this means for the practitioner

Every limit that applies to psychedelic trials applies more strongly to a single practitioner's experience on a training floor. You know what you took. You expect it to be meaningful. You want it to teach you something. The experience will amplify your sense of significance. And no one is checking the results blind.

That is not a reason to dismiss the experience. It is the reason for the insight test (Chapter 11), the filmed comparisons (Chapter 12), and the sober practices (Chapter 13). It is also the reason this book keeps its categories so carefully apart:

- **Measured:** psilocybin changes perception, self-experience, timing, attention, balance, and touch processing; it can occasion experiences of lasting personal meaning; it carries specific risks.
- **Anecdotal:** practitioners, including the compiler, find altered practice "mindbending" and illuminating.

- **Speculative:** that psilocybin improves martial skill, sensitivity, or understanding of movement. No controlled study has tested this, and there is no direct evidence for it.

An upgrade, honestly described

What, then, might an upgrade in consciousness mean in a book like this?

It might mean what the mystical-experience research describes: moments of unusual meaning, connection, and openness that people carry with them for years. It might mean what the compiler's philosophy describes: understanding one's own mind and body more truly, by studying them directly in an unusual state. And it might mean something the evidence supports better than either: a practitioner who can hold an extraordinary experience lightly, test it honestly, and keep only what proves true.

The source document ends its safety section with a sentence that could stand for the whole series: "Individual results vary; integration and consistent practice remain essential." Curiosity opens the door. Care keeps it safe. And practice, sober and patient and repeated, is how anything found on the other side becomes yours.

Curiosity opens the door. Care keeps it safe. Practice makes it yours.

Appendix A · Checklists and Logs

Copy or print these pages. Fill them in honestly. Film what you can. The point of a log is to let your future self see what your present self cannot.

The explorations, in brief

- **Slow form** (Chapter 6): where turns begin, weight transfer, resets, the inner critic, time estimation.
- **Wide circle walking** (Chapter 6): the centre, the feet, slow palm changes with still feet, the visual field.
- **Spiral tracing** (Chapter 6): speed and curvature, the forearm helix, eyes open versus eyes closed, least effort.
- **Free form** (Chapter 7): where movement wants to go, chains and breaks, familiar fragments.
- **Slow shadow work** (Chapter 7): imagined redirection, the imagined partner's centre, emotional weather.
- **Soft-ball juggling** (Chapter 7): one ball, the rhythm, the figure-eight, the drop.
- **Light touch** (Chapter 8): leaning on the bag, following its swing, slow tracing around the dummy's arms, self-touch.
- **Inner-sense experiments** (Chapter 9): mirror arms, weight centre, heartbeat counting, breath edges, the spiral inside, one-minute estimate, the self in the body.

Before the session: responsibility checklist

Item	Yes / No
I have read Chapter 5, and none of the listed contraindications apply to me	
I have checked the law where I am and accept responsibility for my choice	
A sober, experienced sitter will be present for the whole session	
Heavy implements, live weapons, and steel or rigid equipment are put away	
The space is open, flat, warm, private, and free of hazards	
Soft balls, light sticks or foam trainers, cushions, water, and blankets are ready	
I have filmed a sober baseline of the movements I plan to explore	
I will not drive or do hazardous tasks for the rest of the day	
I am rested, steady, and have a simple intention for the session	
Either of us can end the movement part of the session at any time	

Sitter's session notes

Exploration	Observation (what was visible)	Measurement (time, photo, count)	Concerns

Session journal (within a day, and again a week later)

Exploration	What I noticed	How vivid (1–10)	Claim to test	Feelings

Inner-sense experiments: sober versus altered

Experiment	Sober result	Altered result	Confidence sober (1–10)	Confidence altered (1–10)
Mirror arms (photos)				
Weight centre				
Heartbeat count vs pulse				
One-minute estimate				
Slow form duration estimate				

The insight test (Chapter 11)

Claim (specific)	Prediction (visible)	Sober trials, days	Blind judge chose insight version	Result
			__ of __	
			__ of __	
			__ of __	
			__ of __	

Filmed comparison log (Chapter 12)

Same angle, distance, lighting, and clothing for every clip.

Movement	Baseline date	1-week date	1-month date	Visible change (head height, pauses, path, feet)	Judged blind?

Appendix B · The Evidence at a Glance

A summary of the main claims discussed in this book, how strong the evidence is, and where to look. "●" marks well-established findings, "◐" suggestive or emerging ones, and "○" claims that are untested or anecdotal.

Claim	Strength	Key sources
Tai Chi improves balance and reduces falls in older adults	● Established	Huang et al., 2017; Sherrington et al., 2019; Li et al., 2018
Long-term Tai Chi practitioners have better proprioception	● Established (cross-sectional)	Tsang & Hui-Chan, 2003; Xu et al., 2004
Baguazhang, Wing Chun, and push hands have been studied	◐ A few small studies	Cao & Zhang, 2026; Fuchs et al., 2017; Chen et al., 2010
Wooden dummy training has measurable effects	○ No studies	Chapter 8
Martial arts loading can strengthen forearm bone	◐ One non-randomized study	Khalil et al., 2023
Psilocybin alters perception and self via 5-HT2A	● Established	Vollenweider et al., 1998; Kometer et al., 2013
Psilocybin geometry reflects visual cortex architecture	◐ Strong model, plus EEG evidence	Bressloff et al., 2001; Kometer et al., 2013
Entropic brain, REBUS, ALBUS	◐ Hypotheses	Carhart-Harris et al., 2014; Carhart-Harris & Friston, 2019; Safron et al., 2025
Psilocybin impairs timing, attention, psychomotor performance, balance	● Established	Wittmann et al., 2007; Hasler et al., 2004; Barrett et al., 2018; Carbonaro et al., 2018
Psilocybin alters processing of touch and bodily self	◐ One imaging study, theory	Duerler et al., 2021; Ho et al., 2020
Psilocybin improves martial or athletic skill	○ No evidence	Portes et al., 2025

Claim	Strength	Key sources
Practising altered teaches the mind and body	○ Practitioner philosophy	Foreword; Chapter 1
Support and setting reduce harm	● Established	Johnson et al., 2008; Carbonaro et al., 2016; Kopra et al., 2022
Psychosis or bipolar family history increases risk	◐ Survey and guideline evidence	Johnson et al., 2008; Simonsson et al., 2025
Lithium with psychedelics risks seizures	◐ Case reports, consistent	Nayak et al., 2021
HPPD is uncommon but real	◐ Limited data	Halpern & Pope, 2003; Doyle et al., 2022
Experts perceive in chunks and templates	● Established	Chase & Simon, 1973; Gobet & Simon, 1996
Brains learn statistical patterns automatically	● Established	Saffran et al., 1996; Fiser & Aslin, 2001
Combat experts anticipate from early cues	● Established	Mann et al., 2007; Mori et al., 2002; Milazzo et al., 2016
Expectation and need for control produce false patterns	● Established	Liu et al., 2014; Whitson & Galinsky, 2008
Psychedelics amplify meaning	◐ LSD study and theory	Preller et al., 2017; Hartogsohn, 2018
Psilocybin can occasion lasting meaningful experiences	● Established (small, selected samples)	Griffiths et al., 2006; Griffiths et al., 2008
Psilocybin builds new neural connections	◐ Animals and cells only	Shao et al., 2021; Ly et al., 2018
Psychedelic trial effects are overestimated by expectancy	◐ Strong methodological case	Muthukumaraswamy et al., 2021; Aday et al., 2022; Szigeti et al., 2021
Meditation and breathwork have modest benefits	● Established	Goyal et al., 2014; Fincham et al., 2023
Meditation shapes psilocybin outcomes	◐ Two studies	Smigielski et al., 2019; Griffiths et al., 2018

Glossary

5-HT2A receptor — A serotonin receptor in the brain. Psilocybin's main psychedelic effects depend on stimulating it.

ALBUS — "Altered beliefs under psychedelics," a hypothesis that psychedelics can either relax or strengthen the brain's prior expectations, depending on conditions.

Angular momentum — The rotational equivalent of momentum, which stays constant unless an outside twisting force acts.

Apophenia — Perceiving meaningful connections between unrelated things.

Chunk — A meaningful group of information or movements that is perceived, remembered, or executed as a unit.

Default mode network — A set of brain regions, including parts of the medial prefrontal and posterior cingulate cortex, associated with self-related thought and mind-wandering.

Ego dissolution — A temporary loss or weakening of the ordinary sense of self, measured in psychedelic research by questionnaires.

Entropic brain hypothesis — The proposal that psychedelic states involve increased variability ("entropy") of brain activity, and that ordinary waking consciousness suppresses it.

Expectancy — The influence of what a person expects on what they experience and report.

Flow — A state of complete absorption in a challenging activity, in which self-consciousness fades and action feels effortless.

Form constants — Klüver's four categories of geometric hallucination: lattices and honeycombs, cobwebs, tunnels and funnels, and spirals.

HPPD — Hallucinogen persisting perception disorder: recurring perceptual disturbances long after a hallucinogen has worn off.

Integration — The work done after an experience to make sense of it and carry what is valuable into ordinary life and practice.

Interoception — The sense of what is happening inside the body, such as heartbeat, breath, and gut sensations. Accuracy, sensibility, and awareness are distinct dimensions.

Mook yan jong — The Wing Chun wooden dummy.

Mystical-type experience — An experience characterized by unity, sacredness, deeply felt positive mood, transcendence of time and space, and ineffability, measured by questionnaires.

Pareidolia — Seeing meaningful shapes, such as faces, in random or ambiguous stimuli.

Perceptual learning — Improvement in sensory abilities through practice.

Proprioception — The sense of the position and movement of the body's parts.

Psilocybin — A compound produced by several species of mushroom, converted in the body to psilocin, which acts mainly on 5-HT2A receptors.

Push hands — A two-person Tai Chi practice of maintaining contact while yielding to and redirecting a partner's force.

REBUS — "Relaxed beliefs under psychedelics," a model proposing that psychedelics relax the precision of high-level expectations, freeing bottom-up information.

Rotational inertia — Resistance to changes in rotation, increased by mass far from the axis.

Set and setting — The mindset a person brings to an experience, and the physical and social environment in which it happens.

Sitter — A sober, trusted person who stays with someone in an altered state to keep them and the space safe.

Statistical learning — Automatic learning of the regularities in a stream of experience, such as which sounds or shapes tend to occur together.

Template — In expertise research, a large long-term memory structure into which new information can be slotted rapidly.

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About This Book

Title. *Lens and Lattice: Altered Perception, the Internal Arts, and the Science of a Curious Practice.* Book 4 of the Companions to the System of Inevitability.

Compiled by Cory Matthew Snell. **System originated by** Uki (@ukigigi). First edition, November 2026.

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