

Mastering Paragliding

Book Review by Josh Cohn

In Kelly Farina's new book, *Mastering Paragliding*, he presents the methods one needs to employ to improve paragliding XC performance in a more attractive and well-structured manner than I've seen before.

The book it most resembles is Bruce Goldsmith's *50 Ways to Fly Better*. Both books share *Cross Country Magazine's* editorial polish, typeface, and even some of its content.

Mastering Paragliding follows the order of a good XC tour, starting with foundational skills like launching, how to hold the brakes, etc. Kelly has coined "catchy" terms for his ideas, some of which sound familiar, probably from my having read his writing in *XCMag* over the years. I sometimes bridle a little at yet another neologism, but I remind myself that the target audience will probably find them

memorable and useful.

Here's a glossary of some terms used in the book that were semi-new to me:

CARVING: turning smoothly, with no wasted energy

BRIDGE PRINCIPLE: using a ridge-soarable spine connected to higher mountains above the valley wind to complete a transition after getting stuck in valley wind, instead of diving into a sunny lee

MAGNET EFFECT: the tendency of air to be entrained toward a rising thermal

FLOW OF THE DAY: planning an XC in the mountains to minimize flying against a valley wind and maximize time over sunny faces

FIZZY: unstable conditions

STICKY: stable conditions

There is also an extensive glossary in the back, containing a few wry entries such as "Fun: Keep it in mind" and

"Confidence: important to have."

The target audience for this book is likely similar to that for Alpine XC Tours: intermediate pilots getting started in XC and more experienced pilots new to the Alps.

Another book that has some overlap in subject matter, *Thermal Flying*, by Burkhard Martens, has a drier, more technical approach and less editorial and design polish. (I didn't notice the rudimentary design of this book until I held it next to Farina's. At that time it became clear that *Mastering Paragliding* is much easier on the eye. It avoids losing readers by not including any equations.)

However, the repetition that occurs over the course of this book will likely suit many pilots' learning style.

Early on, we are introduced to the 4-for-90 rule, stating that each 90 degrees of a thermal turn should be completed in four seconds. This is genius and corrects the most common error seen in the flying of beginner/intermediate thermal pilots. 90% of the comments made in thermal and XC clinics seem to be "Turn tighter!"

The "Dynamics of Lee" section should be required reading for all pilots considering flying XC or transitioning from the flatlands to the mountains. It describes how leeside thermals

"THESE TECHNIQUES AND CONCEPTS WILL HELP ANY PILOT FLY BETTER"

Stephan Striegler
Former World Champion



MASTERING PARAGLIDING

Kelly Farina



◀THE WAY AHEAD
Mastering is a sunset over Colorado.
Photo: Art Green

THE GOAL IS THE JOURNEY AS A WHOLE

WELCOME to *Mastering Paragliding*. This book is designed to help you make clearer and faster progress through our sport at every stage of your flying career, whether you're making your first short hops or chasing glory in the XC leagues. In it, we'll present concepts that will allow free-thinking pilots to craft a style true to the fundamentals of efficient soaring flight. We'll go from playing with physics while carving clean lines around the sky, to eventually covering incredible distances by following nature's flow.

Techniques and style differ from pilot to pilot, but some principles bind all competent XC flyers together. Those principles are arguably set in stone. The end result is greater efficiency, which is essential for anyone truly interested in traveling using only the sun as their fuel.

In our sport it doesn't really matter how good you are — it's about having fun and getting away from our normal lives. But it can't hurt to understand what we do better so we can enjoy long and challenging three-dimensional chess games with nature, so short but sweet sessions after work on a local hill. The main thing is that it's safe and we're having fun.

In these pages we'll discuss when to call it a day in the face of cloud development, and when the same pilot climbs out five days later, making it look ridiculously easy. We'll learn how to carve the sky and center on the core like never before, to take the look away from deciding where to search for the next moonbeam ride. We'll talk about planning

and executing routes around complex valley systems, and adapting lines to coincide with changing conditions. We'll understand how to read the sky, maintain the day or even beat fellow competitors over the finish line. This is so "how to" manual, but more a rough guide to a logical path of progression. Crawl before you walk, walk before you run. Understand this, and real progress is sure to follow.

The road to progress

When we're stood off by our instructors, we have the minimum basic skills. We can most likely do simple assessments of site and weather. We should be able to launch and land independently, causing minimum disruption to those sharing the sky around us. But we possess few of the tools needed to be skilled, well-rounded pilots.

If our skillset is a toolbox, the beginner is armed with little more than a monkey wrench. But sometimes, in strong, turbulent skies, we may need a hammer. Quick, precise reactions and timing are required, but never play a part here, too. At other times we may need a wrenchmaker's screwdriver, for the light, subtle technical days when technique is everything.

Which tool we need depends entirely on the conditions. Having only heavy tools when subtlety is required will see pilots land frustratingly early, wondering how others are even staying up. There should have a toolbox full of well-practiced techniques. Softer skills are much more technical and

4 THE PYRAMID OF PROGRESSION
The Pyramid of Progression is at the heart of this book. It explains the skills you need to build at each stage of your learning before moving confidently on.

<p>MOUNTAINS</p> <p>FLATLANDS</p> <p>AIR MASS</p> <p>CLOUDS</p> <p>MAGNET EFFECT</p> <p>ATMOSPHERE</p>		<p>THERMAL FORMATION</p> <p>VALLEY FLOW</p> <p>CONVERGENCE</p> <p>HEATING EFFECT</p> <p>LEE</p> <p>METEOROLOGY</p>
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carry the turbulence of their source air with them, as well as addressing the times when wind speed becomes an issue.

The sidebar endorsements sprinkled throughout, from top competition and XC pilots Russ Ogden, Thomas Walder, Debu Choudhury and Stephan Stiegler convey the impression that the book's advice has been well vetted.

Case studies on dramatic cloud incidents give a balanced view of the danger of unstable conditions going from good, to great, to "uh-oh." Pilots

shouldn't fly mid-day on days with significant development, without absorbing these lessons.

One short section of the book contains an idea I am unsure about. It's called "the pressure drop effect" and describes a situation during which large clouds are seen over high peaks 25km away, suddenly followed by stable, blue conditions in the foothills giving way to lifty conditions with cumulus clouds popping. The suggestion is that the distant cu-nim is causing a sudden drop in pressure locally. Even after some very pleasant correspon-

dence with the author, I can't visualize the causality working this way.

I don't doubt that the observations are accurate and have been seen multiple times, but just wonder about the interpretation. Another possible explanation is that both the distant cu-nims and the local change in stability are caused by the same thing: a synoptic-scale change in pressure. The advice to not panic is good, no matter what the ultimate cause.

The last section contains case studies of Zillertal, Austria, and Val di Fassa in the Dolomites. Pilots visiting these sites have ample reason to pick up the book, just for the in-depth description of the local valley systems and routes. The photo/diagrams show clearly many places of interest, alphabetically from A through O for the Zillertal, listing every rotor zone, soarable face, and protected lee.

I wish I'd had this book when I'd started flying XC, especially when I first flew in the Alps. I could have avoided learning some of the lessons the hard way, and probably would have had better, safer flights sooner. 🇪🇺

BELOW Author Kelly Farina.

This low-level wind is responsible for much of the uncomfortable turbulence associated with Alpine flying — that and inversions. Add intense heating to that wind strength and it will produce impressive lee-side activity that's only for the brave or uneducated pilot.

The valley flow will also have a predictable height that will be similar on any given XC day. Knowing this will enable pilots to understand and estimate where they will come into its influence. The higher up, the less effect it will have.

Arrive on a long crossing in orbit, and the hot fans will show the way. However, most times life is not that kind and we'll need to cover ourselves when coming close to this deep, fast-flowing, buoyant valley flow.

The Four Faces

Any face in any mountain range can be said to fit into one of four categories. In fact, any rock, any tree or any square meter on a hill can be pigeonholed roughly this way, and roughly in all we need to make an informed choice about what will make a safe route around the arena we plan to fly.

Of course, I'm writing about what is happening within the valley flow, but the plan should survey take into account the forecast meteoric wind — and it should be light enough to allow safe passage through.

Understanding these four categories implicitly will enable pilots caught out by unplanned events or conditions to make a quick and informed choice as to where to go next. On the move, the Bridge Principle truly is our emergency technique.

Whenever there's a large change in the direction of the valley's architecture, there's the potential for both lee-side activity and an easy ride out. This is also true when two valley systems meet. This joy and yang of Alpine flying is the basic concept of the Bridge Principle.

1. The Bridge

We call a mountain, or part of one, which has air forced up it a Bridge. Even surprisingly shallow angles to the flow can work. There a pilot can rely on a laminar flow and buoyant air being allowed to run up the terrain.

Depending on the stability of the air mass, it's where we might find the flow's embedded thermal triggering. Bridges that jet out into the flow are obvious places to wait until such a thermal is released, they allow the thinking pilot to continue on their way once they are out of the valley flow. They're our bridges across these fast-flowing rivers.

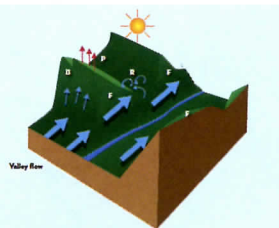
Planning your bridge is important for continuing safely and in comfort. The shilly on route to spot other potential bridges will keep you in the game should things not go 100% according to plan.

2. The Protected Lee

Another spot is hidden deeper in a side valley: a laminar flow stays here, pulling in air from the heat reservoir below. The climb is strong but clean. How hard-edged it is depends again on the stability of the air mass that it's forming in. This flow is clean because it avoids the tumble where the terrain changes direction. These areas are known as protected leesides. For stress-free flying, incorporate as many of these as you can into your plan.

3. The Flinch Face

The next spot, or face, is almost indifferent to our cause; it's called the flinch. It's good for drifting along, but never really allows the flow to rise up its flank. It simply directs its thermals attracted to these sides will just drift with the flow. They're neither clean norable areas nor particularly rough. They're just there to make things more complicated until we can find a bridge to maintain on. Think of them as inert



*** THE FOUR FACES**
Here we have examples of all four faces. B is a bridge: the valley wind hits the hill and is forced up the face. This is a good place to see. The face F are formed by the valley wind. It is an area of lee-side rotor to see clear at but P is protected, away from the area of rotor, and unwarmed in a cold after a lee-side thermal.

magnets that can draw large quantities of the Bridge hot air up from the valley floor. Recognizing where this drifting, meandering flow may be triggered will help immensely when stuck on a face like this.

4. The Rotor Lee

Last and by no means least is the worst case scenario. Certain areas should be avoided like the plague in winds over 15-20kph. These areas are where the flow has been forced over or around something, and is now tumbling and crashing. These rotor lees are responsible for most incidents in the Alps. They need to be recognized and avoided. Such faces can produce twisted climbs that stay twisted through the air's heavy inertia to cloudbase and beyond.

