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# RETHINKING SHAPES

**REVIEW COPY**

THE STRAIGHT TRUTH ABOUT CURVES

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TARAS KOVALIV

For those brave enough to bend the rules.

# FOREWORD THINKING

If the cover of this book has intrigued you—well... awesome!  
And thank you for your attention.

If you're like most people and can't immediately visualize a shape in the white space below the blue question mark—between the circle and the triangle—then this book was written for you.

Welcome—and hi.

I'm here to help you expand upon and rethink what you may already know about our most basic shapes.

These are simple observations, written for ordinary people to easily “fill in the gap(s).” And yes—incredibly, there ARE gaps to fill. Gaps in most *everyone's* understanding. So, you are not alone.

If you have an open mind and an open heart, this book will help you explore a strange question many of us have never thought to ask:

## What is a two-sided shape?

My hope is that the way I've organized and presented this information helps us explore the interrelationship and interdependence of all things.

And of course, that it acknowledges and fully respects the many colorful gender identities of humanity—just as it does the rich diversity of shape, form, and structure.

Let's think of this book as an introduction to... ***Inclusive*** Geometry.

I think it's a fine new term for us all.

So... together... Let's *rethink* shapes.

## A Short Note to the Techies on Terminology

Feel free to skip over this page if it at all sound complicated.

### Masculine and Feminine

The “gender” of Shapes

Some of the terms used in this book may differ from what you’re used to. For example, widely accepted terms like “circular triangle” or “Reuleaux triangle”—though reasonable in their own right—could benefit from deeper connectivity to one another.

Sacred Geometry provides this missing link, showing how these curvilinear shapes are not separate ideas but rather directly related “sisters”.

### Concave and Convex Polygons

What we currently define as a *concave polygon*—with its straight-line edges—might be more accurately described as an *indented* polygon, not un-like sketching a simplified, boxy, open-mouthed “Pac-Man” figure using only five straight lines.

Likewise, what we now call a convex polygon is no different from a “regular” polygon—basically, it’s a pentagon.

So, I’m “borrowing” and *reclaiming* these terms for use in a more logical and intuitive way as part of this book’s story arc.

Kindly refrain from killing the messenger. (-:

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# RETHINKING SHAPES

## THE STRAIGHT TRUTH ABOUT CURVES

By: Taras Kovaliv

Very gently edited with the kind help of Digital Intelligence.

### INTRODUCTION

Dear reader,

You are about to transition into a much more expansive understanding of the world around you.

Seriously! And to be honest, it might be a little shocking.

So, proceed with an open mind—and grab a pencil!  
Don't worry... it'll be fun. (-:

What follows is the kind of stuff you absolutely should have been taught as a kid—but... probably weren't.

No stress!

If you're a parent, teach your kids this when you're done reading. If you ARE a kid, teach a friend, your family—or maybe even your teachers! And if you're a teacher, I hope you enjoy this journey as much as I've enjoyed writing it.

Will this be difficult?

Not... at... all.

Anyone can learn what follows. These ideas are so fundamental and basic to human understanding that we probably should have picked them up long before we even started school.

Yet, somehow, they were overlooked. Why this is the case—and why so many of us seem to have forgotten these insights—is still something of a mystery.

It's like there are holes in our collective thinking—as I've mentioned, "gaps" waiting to be filled. But by the end of this short book, however, those gaps will simply vanish!

In this book, we'll focus mainly on the fundamental two-dimensional (flat) geometric shapes—the ones on this book's cover, for instance... the polygons.

These shapes, and others like them, are the basic building blocks of our three-dimensional reality. We see, recognize, and **use** them every day.

But here's the thing: there are a few shapes that, strangely, seem to confuse us. Even though we see and use them all the time, most people—when asked—can't name, identify, or even draw them (we'll dig deeper into this later).

By the time you finish, though, this won't be a problem.

Enjoy!

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**Here's something fun to try:**

Before you read further, take a moment to write your name and today's date. Then, in the spaces provided below, draw the four most basic shapes you can think of. They don't have to be perfect—just give it your best shot. Maybe even shade them in if you'd like.

But here's the rule: **Don't peek ahead until you've done this!** (-:

**Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

Ok... let's draw some shapes!

**Shape 1:** \_\_\_\_\_ **Shape 2:** \_\_\_\_\_

**Shape 3:** \_\_\_\_\_ **Shape 4:** \_\_\_\_\_

Now, close your eyes for a moment and picture these shapes in your imagination. Hold each one separately in your mind's eye for a few seconds at a time. Think about their names, their corners, edges and contours, and how they feel to you. Spend a few minutes really considering this small group of two-dimensional forms.

Pretty straightforward stuff, right?

Ok... Do you remember when you first learned about them as a child? How did you learn their names? Where were you? And how old were you?

Take your time. This is important! (-:

We'll refer back to these four drawings later to see how much your understanding has grown.

When you're sure you're ready, stand tall, breathe deep, then continue your journey into the world of shapes.

And—enjoy every step of the way!

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## CHAPTER 1

### LET'S START BACK AT THE BEGINNING

It's pretty safe to assume that anyone reading this book has gone through some type of formal education—whether primary school, homeschooling, high school, or maybe even college, university, or specialized vocational training.

If you've made it this far, let's make one thing clear: *you're no dummy!* You've got a good, strong brain, and it's brought you here.

At the earliest stages of your education—back when you were just starting to walk and talk—you learned something monumental: the alphabet. Let's call them your "ABCs."



These 26 letters are the building blocks of the English language (or whatever alphabet your primary language uses).

Learning them was no small feat, but... you did it!

From there, you gradually learned to read and write, stringing letters into words, words into sentences, and sentences into stories.

Over time, you developed a powerful tool: language. It's how we connect, express ideas, and share our incredible human experience.

Around this same time, you also began learning about colors—the reds, greens, yellows, and blues of the world.

You didn't just memorize their names; you learned to recognize and differentiate them. You could tell the difference between the color of the sky and the color of grass, the vibrant red of a strawberry and the sunny yellow of a banana.

During those same early days, as you were learning to count and write numbers (1, 2, 3, 4...), you were also being introduced to the world of shapes.

These were simple, regular forms: the circle, triangle, square, etc. Most likely, you drew them with crayons, traced them with stencils, or spotted them in the everyday objects around you.

Perhaps these are the ones you drew above.

Now then... This is where our story starts to get *really* interesting!

Yes, shapes—good old basic, regular shapes.

The circle...  
the triangle...  
the square, etc.

The foundational building blocks of a different kind of language—an understanding of the way the ever-moving world physically appears to us and geometrically fits together.

While we were content to learn about circles and squares, we might have overlooked their siblings or “curved” cousins.

Soon, you’ll see.

## **WHAT MAKES A SHAPE “REGULAR”?**

Let’s start by asking Wikipedia:

### **How many regular shapes are there?**

*“The simplest polygon is a triangle (a 3-sided shape). Polygons of all types can be regular or irregular. A regular polygon has sides of equal length, and all its interior angles are of equal size.”*

And...

## What are the two different kinds of shapes?

*“There are two types of shapes: geometric and free-form. Geometric shapes are precise shapes that can be described using mathematical formulas. Geometric shapes include circles, squares, triangles, ovals, rectangles, octagons, parallelograms, trapezoids, pentagons, and hexagons.”*

This is interesting information, *but*—with all respect to Wikipedia, its contributors, and anyone reading this—it’s incomplete. VERY incomplete. These answers are missing some HUGE and important aspects of reality that are highly relevant to what we’re exploring here.

Let’s take a closer look. Please allow me to gently and respectfully broaden the perspective.

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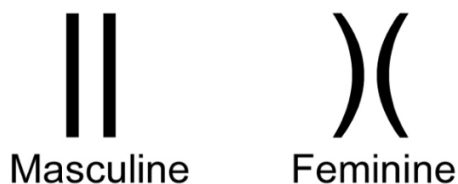
## CHAPTER 2

### MASCULINE AND FEMININE GEOMETRY

Long ago, ancient peoples observed that all geometric forms can be divided into two basic categories: those made with straight lines and those made with curved lines.

Drawing a connection to human male and female attributes, they defined straight lines as masculine and curved lines as feminine.

Let's consider this diagram:



Take a moment to look around you. You'll notice that this duality is all around us, even in the smallest details of your environment. Door and window frames, buildings, wheels, furniture, this book—these are just a few examples of how straight and curved lines shape our world.

Even the letters (the ABC's) on this page combine straight and curved lines to form words, blending both masculine and feminine geometry seamlessly.

Of course, many of the shapes we encounter are more complex, combining straight and curved elements in intricate ways. But for now, we're sticking to the basics.

Understanding this duality is the first step toward seeing how shapes influence everything from nature to the designs we create.

Let's explore how this idea connects to our everyday lives.

## THE STRAIGHT TRUTH ABOUT CURVES

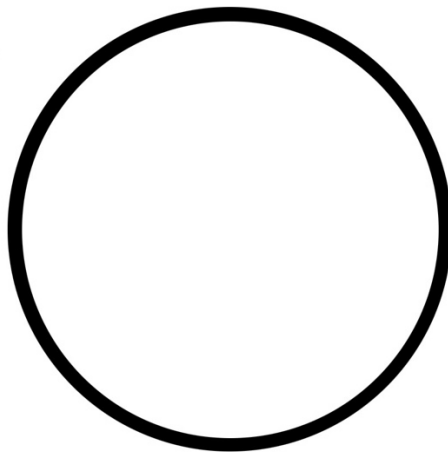
### THE ALL-MIGHTY CIRCLE

We have all seen, used, and benefited from the circle countless times in our lives. Where would we be without the wheel to move us, the clock to measure time, the sun and moon to light our world, or even something as simple as a jam jar lid? The circle is everywhere—transcending cultures, religions, countries, and eras.

The circle—a perfect symbol of wholeness and infinity—is not only found in the shape of the magnificent eyes through which you are reading these words, but also in the skies above and the earth below. Its symmetry and simplicity have inspired humanity to associate it with the highest order of intelligence—what many have called “God,” “Allah,” “The Great Spirit,” or “Universal Mind”, etc.

Let’s take a moment to ponder its beauty:

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The ultimate manifestation of simultaneous CONCAVE and CONVEX—coexisting. The circle simply “IS”—and very appropriately represents *perfection*!

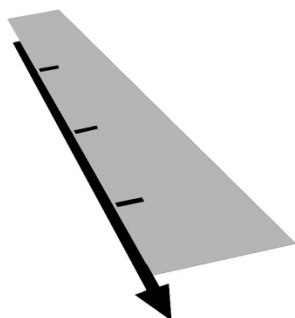
## THE COMPASS AND THE RULER

Do you remember that cheap little geometry set you had in primary school? I do. It came in a rectangular tin box filled with a collection of basic drawing instruments: a plastic ruler, a triangle or two, a protractor, a compass, and maybe a pencil sharpener and eraser.

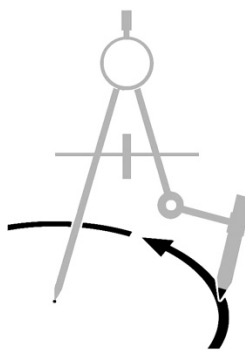
Here’s the thing...

If we think about what we know regarding masculine and feminine geometry, we can confidently say that the ruler is the tool of choice for drawing straight lines—linear, angular, and resolutely masculine in form.

Meanwhile, the compass is the primary tool for creating circles, arcs, and (let’s call them) “curves”, which belong to the realm of feminine geometry—fluid, inclusive, and embracing.



RULER = Straight lines



COMPASS = Curves / Arcs

And yes, many of us have heard the idea that “there’s no such thing as a straight line in the Universe.” But, for now, let’s set aside cosmic philosophy and stay grounded in practical earthly realities.

Lines and curves.

Think back: after learning how to stick the pin of your compass into a piece of paper to draw a perfect circle, what came next?

You probably picked up the ruler. With it, you created triangles, squares, and pentagons—shapes that rely exclusively on straight, masculine edges.

From that point on, the compass was often relegated to making little curved guide marks—arcs—to assist in constructing these linear forms. The feminine tool was literally reduced to a supporting role for the masculine one.

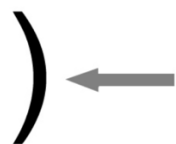
This subtle hierarchy—placing the ruler over the compass—might seem harmless at first glance. But as you’ll see, it reflects a deeper pattern in how we think, construct, and prioritize certain forms of knowledge and creation.

Kindly read on...

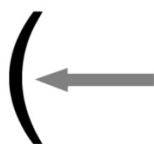
## **The Concave and the Convex: What’s the Diff?**

As a kid, I always confused these two words—**concave** and **convex**. Which was which? One was an “inny,” the other an “outy.” But if you’d asked me to explain, my brain would freeze... like a deer in the headlights.

Lucky for me, a very kindly teacher came along to shine a glorious clarity on this puzzle. “Think of a cave,” she said, with a reassuring smile. “Its inward, scooped-outness makes it concave.”



Convex



Concave

Ahh, the lightbulb went on!

A new world of understanding cracked open before me. She literally put the “cave” in **concave**! “And anything that curves outward,” she continued, “like a ball or a magnifying glass... is **convex**.”

Pretty cool, right?

Well... yes. And yet this all has nothing to do with a straight-edged masculine ruler. These concepts were all about curves—FEMININE geometry.

My pondering continued...

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# CHAPTER 3

## ARE ALL SHAPES CREATED EQUAL?

Let's take a moment to review: the circle is often considered "feminine," while the triangle, square, pentagon, hexagon, and all the other *linear* polygons are typically "masculine."

This distinction is based on the nature of their outer edges—curved for the circle and straight lines for the rest.

Easy, right?

What we've been taught in school—and what society seems to reinforce—is that the circle stands alone as the singular, quintessential "feminine" shape, while all the others—(for now) greatly outnumbering it—are "masculine."

And why is that?

Think back to the tools we use: the circle is drawn with a compass, an instrument of curves. The remaining shapes? They're constructed with a ruler, which relies on straight edges.

Sure, the compass plays a supporting role for the polygons—and the dominance of the ruler is clear.

But... here's the big question: Is this honestly how it is in reality?

Well... NOPE!! Not... at... all...!

As a very wise, short, green inter-galactic sage with big, pointy ears once said: you must “unlearn what you have learned.”

Or better yet—expand on and *rethink* what you already know.

Masculine and feminine—same, same. Lines and curves. Equal value. Equal importance.

## LIVING ON THE EDGE

Let’s continue:

Remember earlier when Wiki kindly informed us: “A *regular polygon has sides of equal length, and all its interior angles are of equal size.*”

The term “*sides*”, of course, refers to the outer edges of the shape. And according to this definition, these sides all need to be of equal length.

But here’s the question: do these sides all need to be *straight*—drawn with a ruler—those familiar, masculine lines connecting the corners of each polygon?

The answer is simple: **NOT... AT... ALL.**

Those sides, or outer edges, can be curves—*arcs*, to be precise.

In fact, the edges of any polygon don’t need to be confined to the rigidity of straight lines at all. They can be concave (curving inward) or convex (curving outward).

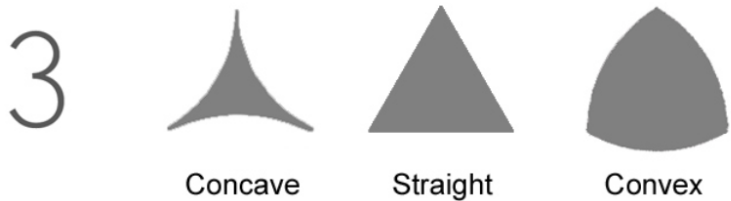
You may already know a couple of examples of curved polygons, like the “*circular triangle*” and the “*Reuleaux triangle*”.

But here’s where we take it further: When we rethink the “edges” of a polygon, we open up the door to two entirely new families of shapes—what we can call *feminine* polygons.

These new shapes—although a bit more intricate to construct—are drawn with a compass instead of a ruler, without needing those straight lines that connect the corners.

Curves are curves. They stand alone, and they work together.

Let’s start with the simplest example: the 3-sided polygon(s).



Imagine these shapes filled with a flat, two-dimensional “air.” One looks as though it’s been sucked *inward*, while the other seems blown *outward*.

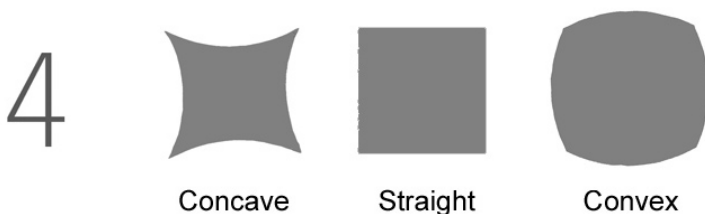
Either way, both exist independently of the straight line—and both are just as real and valid as what society calls “regular” shapes.

They simply aren't recognized as often.

Take a good, long look at these shapes when positioned side by side.

They're fascinating in their own right, especially when all three forms—straight-edged, concave, and convex—are placed together. It's a reminder that geometry, like perception, is so much richer than we often realize.

Now, let's look at the 4-sided version(s):



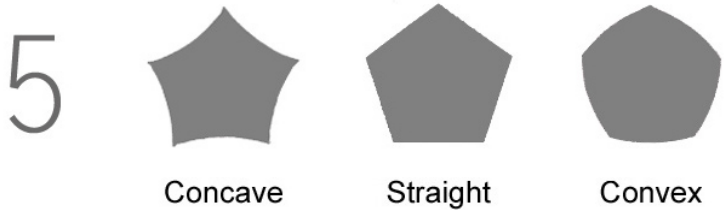
In complete accordance with the Wiki definition, all sides or outer edges are of equal length within their respective shapes.

This rule still holds! The only difference?

We're now recognizing and employing arcs—curves—rather than just straight, masculine lines.

And yes, these curved shapes are still 4-sided, with all sides of equal length.

And while we're at it, let's take a look at 5-sided polygons(s):



The very same “inny/outy” CONVEX/CONCAVE principle applies here. And, of course, it works just as well for hexagons (6 sides), heptagons (7), octagons (8), and all other “masculine” polygons.

### **The Big Overlook:**

As a society, in our schools, and even in the deepest parts of our own minds, we almost entirely fail to recognize this. Somehow, on a fundamental level, we've forgotten about an entire set of shapes—the two distinct categories of concave and convex feminine polygons. (Recall the Wiki definitions above.)

So, let's put it as simply as possible: **They exist.**

### **STRAIGHT TO THE POINT**

**Let's work the angles...**

Ok, picture an angle in your mind.

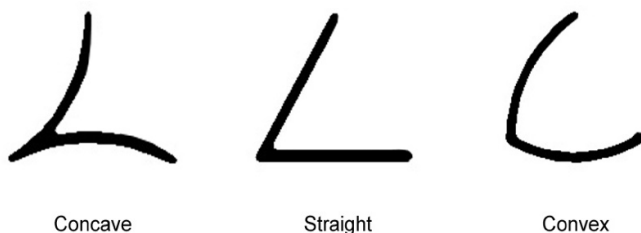
The tip of a slice of pizza is an angle. So is the point of an arrow—or even the letters **A** or **V**.

Simple enough, right?

But...

What about the tip of a leaf? Or the corners of your mouth and eyes? What about the front and rear tips of a canoe? These aren't sharp, straight-edged angles—they're curved. They still function as angles, yet they don't fit neatly into our usual definitions.

We typically think of angles as masculine, formed by straight lines meeting at a point. But what happens when these otherwise rigid, sharp divergences flow into curves instead? What if those angles are feminine, bending into concave or convex arcs rather than straight edges?



Take the shape we call a “triangle”. We name it for the space enclosed by three straight-lined angles—points—its masculine, linear structure dictates its identity: tri-angle = three-cornered.

But this is just one way of looking at it.



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Tri-angle



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What about the other two types of “triangle”? As we now recognize, shapes can have both masculine and feminine corners—some with sharp angles, others with smooth curves.

The “circular triangle” and the “Reuleaux triangle” are the two commonly accepted names for these curved counterparts.

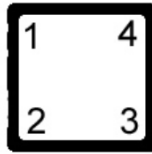
But perhaps these names don’t tell the whole story... and perhaps they should.

*(Book 2 will explore this further!)*

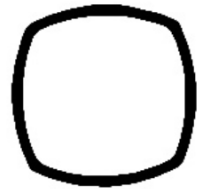
Let's take another look at 4-cornered / 4-angled polygons:



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Square



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And 5-cornered / 5-angled:



By now, I trust, you're hopefully starting to see that there's a bigger picture unfolding...

### **Let'm BREATHE**

Again, imagine these sets of shapes as if they were "breathing"

—with flexible membrane edges...

Breathe in... CONTRACT (Concave)

Breathe out... EXPAND (Convex)

Breathe in... CONTRACT (Concave)

Breathe out... EXPAND (Convex)

Breathe in... CONTRACT (Concave)

Breathe out... EXPAND (Convex)

And at rest—all edges return to a straight line.



## A Note on Names

As you’ve seen, each polygon family (3-sided, 4-sided, etc.) can appear in three forms: straight-edged, concave-edged, or convex-edged. But how do we name them all clearly and consistently?

In standard geometry, we use the suffix “-gon” to describe a shape by the number of its angles or corners—*not* its edges or sides.

“Gon” means “*corner*”.

For example, a triangle (or trigon) has three corners, a square (or quadragon) has four, a pentagon has five, and so on.

What we’re doing here is simple and intuitive: we add a descriptive word—a *prefix*—to indicate the shape’s *edge type*.

- A “**Straight**” **Trigon** - uses three straight lines.
- A “**Concave**” **Trigon** - uses three inwardly-curving arcs.
- A “**Convex**” **Trigon** - uses three outwardly-curving arcs.

The same logic applies to any polygon—whether it’s a quadragon, pentagon, hexagon, or beyond.

Once you get the hang of it, you’ll see the pattern is consistent, clear, and easy to teach—especially to kids or first-time learners.

**Try this:**

Can you imagine what a *Concave Quadragon* would look like?

What about a *Convex Pentagon*? Try sketching them below—or just hold them in your mind’s eye.

Here’s a place you can draw—grab your pencil...  
have fun (-:

# CHAPTER 4

## **WHEN IS A SHAPE NOT (considered) A SHAPE?**

### **Something fishy is going on here...**

Let's try this: For fun, let's play a very basic shape naming and counting game. Simply fill in the blanks: And feel free to draw the shapes beside each of your answers.

1: \_\_\_\_\_ 1-sided shape \_\_\_\_\_

2: \_\_\_\_\_ 2-sided shape \_\_\_\_\_

3: \_\_\_\_\_ 3-sided shape(s) \_\_\_\_\_

4: \_\_\_\_\_ 4-sided shape(s) \_\_\_\_\_

5: \_\_\_\_\_ 5-sided shape(s) \_\_\_\_\_

So... How Did You Do?

Did you get them all? Seems easy enough... right?

If you nailed it—awesome! But if not, don't worry!  
Most people find this trickier than they expect.

Remember... You're not alone. In fact, a huge percentage of the human population will scratch their heads over #2 (and, of course, the trickier concave/convex polygons). It's almost as if a two-sided shape doesn't exist at all.

### **Or does it?**

Most people, when asked, will confidently say:  
*"There's no such thing as a 2-sided shape!"*

They can't picture it, they haven't been taught about it, and so, they assume it must be impossible.

### **Well... don't listen to them!**

They simply haven't yet learned the straight truth about curves. (-:

To be honest, I was one of those people—I believed the same thing for most of my life. Over 40 years, to be exact.

This isn't because people are stupid (far from it!). It's because they haven't been taught correctly. They have no mental image of a 2-sided shape, no clear name for it, and no framework to even think about it.

It's like a missing tooth in our understanding.

But you—you're about to change that.

Because knowledge is power.

So let's fill in the gaps...

Kindly read on.

## The Alpha and the Omega

### *The Beginning and the End*

So, we now understand that polygons can be either masculine or feminine. They can have straight edges or curved—concave or convex—each defining a different type of structural identity.

Now, think again about the compass, that fundamental tool of geometry. And reflect once more on the circle, the simplest, most perfect of all shapes. A one-sided form, its entire boundary is a single, unbroken curve—a pure, continuous loop enclosing space in a state of absolute balance and harmony.

It is, by all accounts, a perfect shape. And, here again, is where things get really interesting.

If we take any polygon, whether masculine (straight-edged) or feminine (curved-edged), and keep adding more and more sides, something remarkable happens.

A triangle becomes a square, a square becomes a pentagon, a pentagon becomes a hexagon, and so on—each step bringing us closer to something new. As we increase the number of sides, making them smaller and smaller, the shape gradually transforms.

At a certain point—whether at 22 sides, 101 sides, or 5,763 sides—the shape starts to *resemble*, but can never actually *be*, a perfect circle.

This means that, in a way, the circle is both the beginning *and* the hypothetical “end” of all polygonal geometry. It is **Alpha** and **Omega**—the first shape and the ultimate destination.

# CHAPTER 5

## TWO SIDES TO EVERY STORY

Yes... at the time of writing, this combination of words—the name, “*vesica piscis*”—is not familiar to the vast majority of (English speaking) people.

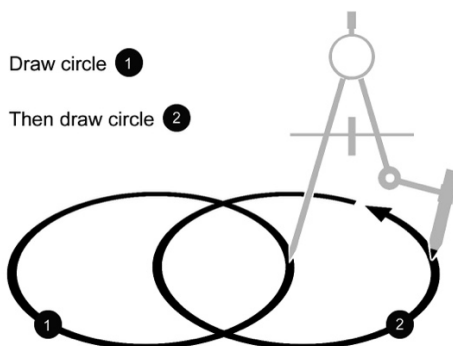
In fact, typing these two words into many word processors or general text fields will still most likely cause the spell check function to go a bit batty.

Vesica piscis is an ancient name that can be translated to mean either "bladder of the fish" or "vessel of the fish".

Adding a bit of confusion, it can also oftentimes be (mis)spelled vesica pieces—with an "e" instead of an "i".

It's simple, really: piscis is singular... pieces is plural—more than one. But, what on earth could it refer to? And what's with the fish?

Well... It's time again to pull out your trusty compass! Or, you can just draw freehand—whatever works... First look at this:



What could be more fun than drawing a circle?

Well—drawing TWO of them, of course!

### **NOW LET'S DRAW YOUR OWN**

The space below is for you. After first drawing a single circle and then simply choosing any point on that circle's outer edge to poke your (imaginary) compass pin into, draw a second overlapping circle of the same size as the first.

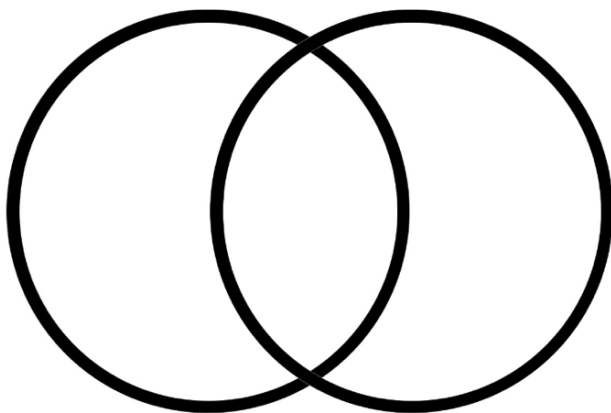
Easy!

Try it yourself: (draw below)—or draw it free hand—either way...

Take a few moments to admire your work...

Two overlapping circles can be a very powerful thing to behold!

Here's what it should ideally look like—here's a nice, crisp version.



Many people believe that the *entire* image of the two overlapping circles is the vesica piscis.

Again, this is not quite so...

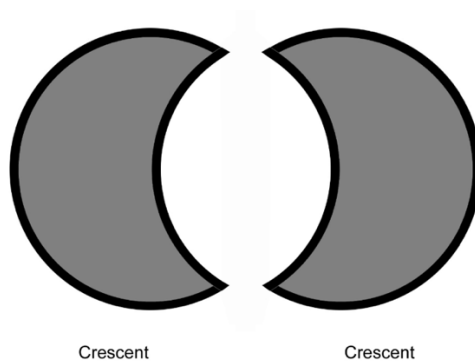
Let's take an even closer look.

So—what shapes do we see?

What do we recognize?

Obviously—two circles. But... what else?



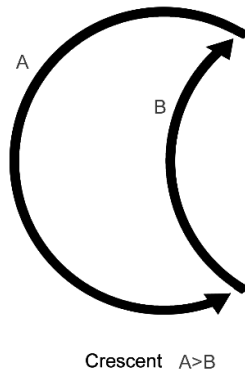


Firstly, the two outer shapes formed by the intersection we know to be crescents—like the moon.

And yes, they each have 2 curved sides...

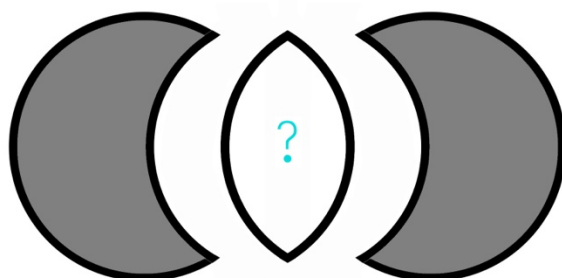
but...

of quite different lengths.



The length of outside Line **A** is obviously quite a bit longer than inside Line **B**.

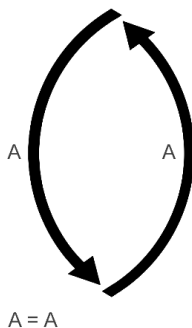
Now then:



If we were to separate the crescents—what then should we make of the shape in the middle? The one that looks like a football, a leaf, a magnifying glass... or... a *fish*!

Yes...

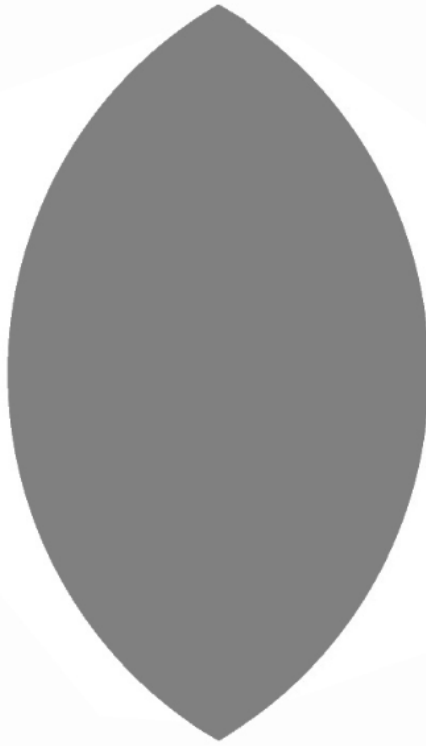
It has two curved sides—outer CONVEX edges—and they are both of the same, equal length...



Both **A** lines—arcs—are CONVEXLY curved. And... both **A** and **A** are equal in length.

Well, good reader, it's very possible that we just may have found what we're looking for...

So... If you've not yet properly met, then please allow me to introduce you formally and respectfully to the *vesica piscis*—or... *digon*—the elusive **two-sided shape**.



Vesica Pisces  
The 2-sided shape

And remember, the word *di-gon* = *two-corners...* or... *two points*.

Let's look at this again: —from the cover of this book.



It seems an obvious fit, doesn't it...?

And the simple answer is *yes*—it fits  
—it's a two-sided / two-cornered shape.

However...

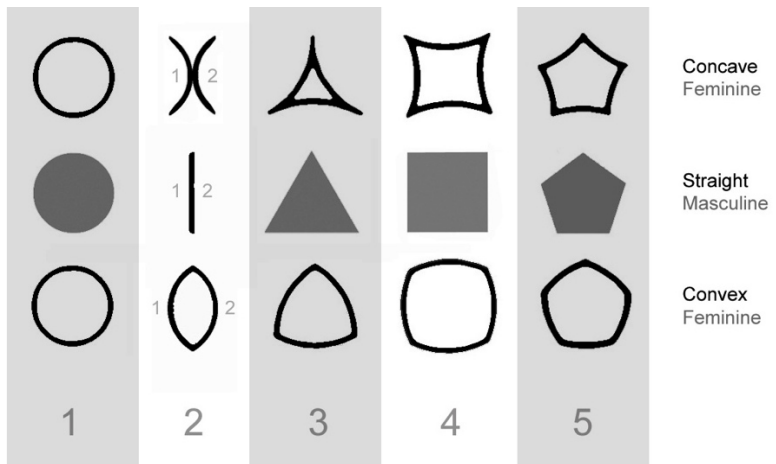
Take some time to really consider and study this next  
illustration...

First, count the "shapes" in each of the rows  
*downward*...

All of the 1's, then the 2's, then the 3's, etc.

Then observe and count them left to right—horizontally  
—in rows across...

1, 2, 3, 4, 5



There is a Concave Feminine set, a Straight Masculine set and a Convex Feminine set...

We all recognize and know the names of the Circle, the Triangle, the Square and the Pentagon.

But what shall we make of the rest...?

Again... picture these shapes in your head—hold each one separately in your mind's eye for a few seconds at a time.

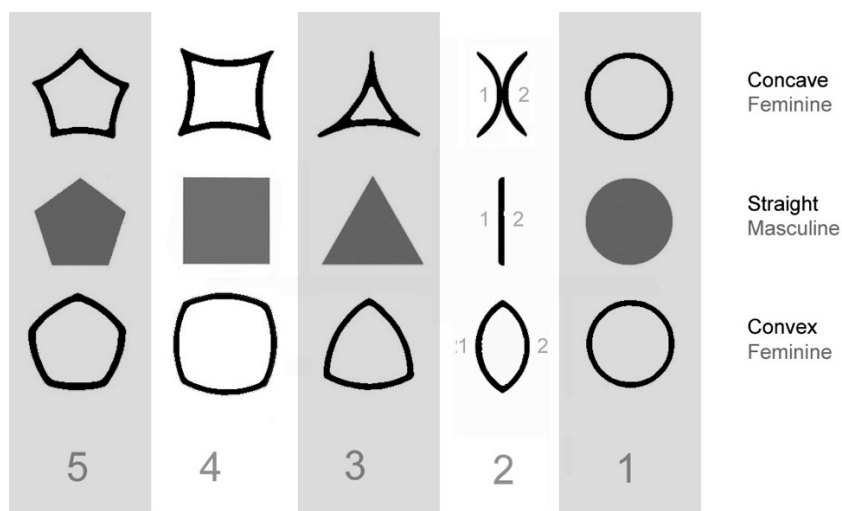
Think about their (possible) names. Spend a few minutes really considering this group of two-dimensional forms and...

well...

you get the idea.

Try now looking at each row as if counting "backwards"—in reverse order.

5, 4, 3, 2, 1



Think of it this way: If we were to start with any 5-sided shape, then progressively “remove” one of the sides to make a 4-sided shape, then a 3-sided shape...

We find that 2-sided presents us with some interesting challenges. This, I will leave you with to further consider—for now—by yourself...

Of course, only one of the three 2-sided shapes actually has form—area—space that you could color in or shade.

The others are conceptual. They are a type of “impossible” shape.

In the “Straight/masculine” category, it is, of course, a straight line.

## AND... THE WINNER IS...

Well... The vesica piscis (digon) **IS** a/the 2-sided shape—and it's the only one we can really draw and shade or color in the surface area.

To be really specific, though, the VP is a member of the **CONVEX** family of curved polygons—because of it having *outwardly* curved sides.

So, I suppose the cover of this book is a bit of a trick question.

But it matters not. We now have our answer. (-:

## DRAWING CONCLUSIONS

Congratulations! You are now officially smarter. You now know a lot more about basic geometry, and you can envision and draw an entirely curvy set of "new" polygon shapes—both concave and convex. You can now easily recognize them anywhere in a crowd!

So feel good about yourself.

You have expanded your thinking— “unlearned” and relearned.

This is good.

And one more note of interest for the serious geometry enthusiast:

While many of the examples here use circular arcs for clarity, it's worth a mention that the same principles also apply to **parabolic** and **hyperbolic** sides, unlocking even broader landscapes of possibility.

As we all agree—conic sections are indeed cool! (-:

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## LET DIGONS BE DIGONS

### Share the Wealth...

Learning about the VP is the beginning of a journey unto itself.

Why is it so hidden? Why weren't we all taught this from the beginning—at school?

These are great questions!

And yet, you can find it everywhere:

- In boats, fish, flower petals, church windows, leaves, eyes, historical and modern artwork, gemstones and lips.
- In a magnifying glass or a vibrating string
- And... in the study of Sacred Geometry, where it plays a key role in defining balance, proportion, and harmony.



This is something well worth exploring further on your own.

Enjoy!

### **How to Road-Test Your New Geometric Street Smarts**

So... If you want a really fun challenge? Go out and ask people to name and draw a two-sided shape. And good luck—some of the answers you'll get will be very, um, interesting! (-:

I'll leave you all with sincere thanks for your attention. I hope you've learned something valuable, and that you will pass your new knowledge on respectfully.

### **A GENTLE REALITY CHECK**

If you feel the mad urge to revisit the list of shapes you drew earlier in the Introduction, then that would be completely understandable.

Go check it out. See and remember where you were at the beginning of this journey.

You now know better...

And you can never look at polygons the same way again.

# **Your very own doodle pages...**




(Go nuts...)

OK... Here is YOUR **CALL TO ACTION!**

## **TAKING SHAPE**

### **The Great RETHINKING SHAPES Animation Challenge!**

Now then... this is for all you beautiful, creative animators, artists, illustrators, filmmakers, cartoonists, songwriters, poets, musicians and curious minds of all kinds—**we need you!**

Let's bring a splendid idea to life:  ...  ... 

### **Envision this:**

Picture a clear, white screen—split down the middle by a simple vertical line:—a Left and a Right.

From the left side, a humble, pencil-drawn figure casually walks in.

Let's simply call them **Stick Person 1**.

Looking down, they discover a scattered pile of two-dimensional shapes on the ground.

Curious, they begin to rummage through it...

First, they pick up a fully round shape—what you and I would call a circle.

They admire it, then “hang” it on an imaginary wall beside them.

Next, they find a three-sided shape

—three straight edges, three sharp angles.

Yes... what we know as a “triangle”.

Then a “square”.

Then a pentagon.

One by one, they arrange these familiar shapes on the wall.

Satisfied, they nod, turn, and dash off into the distance.

In the background, a city begins to rise

—an entire world, born from their chosen tool kit of shapes.

A society blooms.

A way of life. A way of thinking!

*(—a moment of silence)*

Now then...

From the right side, a second stick figure enters.

**Stick Person 2.**

They notice the same pile of 2D shapes on the ground...

but something's different—quite different!

Rather than rushing, they take their time. They examine *every* shape—including the ones we've just been exploring together:

The vesica piscis...

The concave, convex, and straight-edged trigons, quadragons, pentagons, and beyond.

With thoughtful precision, they sort these into three distinct rows

—*curved-in*, *curved-out*, and *straight-edged* shapes

—and pause to ponder the full spectrum of what's possible.

Hmm... (-:

Only then do they confidently saunter off toward the horizon,  
ready to build a very different city...

Again—we see a society rise!

A different world—a different culture.

A different mental landscape.

And we, the viewers, are left with a single, powerful question:

**Where would *you* choose to live?!**

**Go there...**

Ok... Do you want to bring your vision to life? It's now time to show everyone *your* skills! To share your own creation with the world!

You might just open someone's eyes to *rethink* shapes in a whole new way.

Scan the QR code to learn more and view full challenge details.

And... of course... *have fun!*

**#TakingShapeAnimationChallenge**



<https://www.butterflyeyemedia.com/animation-challenge>

## About the Author

Taras Kovaliv is a writer, inventor, and artist exploring the intersections of geometry, music, and imagination. Founder of **Butterfly Eye Media** and co-author of *Diary of a Digital Intelligence*, he is dedicated to publishing works that challenge perception and inspire transformation.

He currently builds futuristic guitars under the **TARAS GUITARS** brand and continues to rethink the shapes that shape us.



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