

Study of Abstractions and Shapes

A ttRPG sourcebook about visually
representing abstract ideas

by Aaron der Schaedel
v1.0

Scales

Which side is stronger? Who's winning? While it can't be both, it can be neither. That's what scales represent and are meant to illustrate.

These appear in all kinds of places, from the Morality and similar attributes that appeared in World of Darkness, or the two alignment scales in that give us those terms like Chaotic Evil and Lawful Good, that have escaped D&D and made their way into the broader parts of the zeitgeist.

We'll start with a few terms that will be recurring through every Scale.

Origin – The center most point or space on a scale.

Extreme – The furthest point or space on a scale.

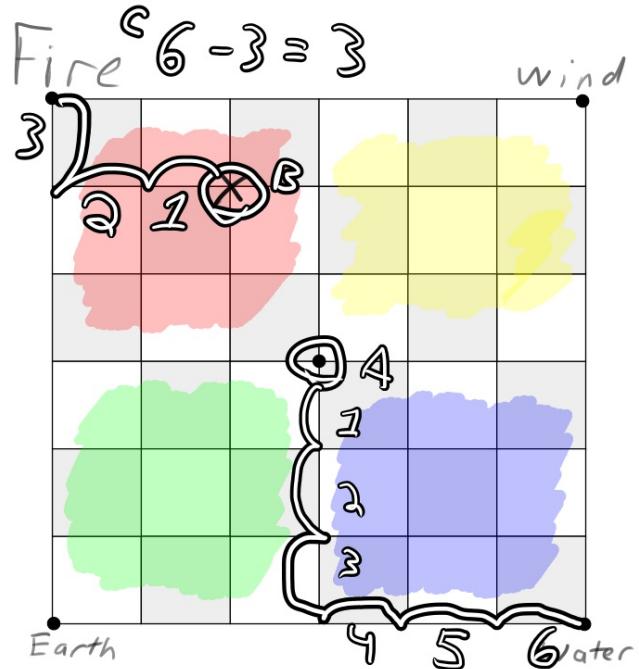
Neutral – The distance between the origin and any given extreme.

Range – Distinct areas within a scale
(*The above do not change as a scale is being used.*)

Center – A point that describes where things currently stand on the scale.

Balance – A measure of how the Center favors a given extreme.

The illustration to the right demonstrates how to find some of these terms.



A) Neutral is calculated by starting at the origin, and counting each movement that it takes to reach an extreme.

B) To find Balance for any given Extreme, you can start at the Center, and count how many moves it takes to reach that Extreme.

C) Then, subtract that number from Neutral.

After doing these calculations, this gives data points for us to use

Each has their own way of being mapped out, and their own idiosyncrasies, so read each section carefully – what's true for one, may not be true for others!

Linear Scales

Linear Scales are one dimensional; they have a neutral mid point, and two end goals. This means they can reflect two extremes, as well as a third range of balance if it's possible that there's a happy medium between the extremes.

With 9 squares, you can have three ranges of 3, with the Origin and one point away from it in one direction being a Neutral Range, and the remaining three on either end being one of two Extreme Ranges.

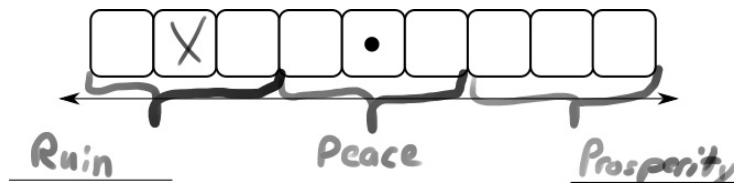
Balance moves very intuitively in this Scale – left or right into another square as Balance shifts from one extreme to another.

Example: Ruin and Prosperity

Ruin and Prosperity is a scale that represents how well the people in a given area are doing. (See diagram to right.)

In this scenario, we have an area that's leaning towards Ruin. They'll have a more desperate populous; people will be easily persuaded by the promise of coin, acquired legitimately or otherwise.

This means it would be easier to acquire hirelings, but you're also likely to encounter bandits. Further, there's not likely to be many useful items for sale; much of what was worth anything has either been plundered or already sold off.



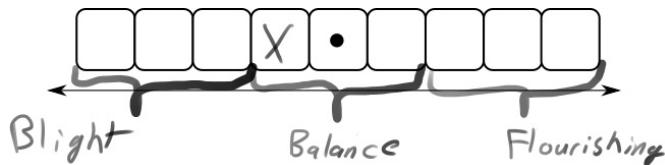
The player's actions could also further drive this place to ruin, by plundering what little is left. They may also find a way to build the place back up, such as by clearing out the monsters that have overrun the mine the locals depended on.

By using a linear scale to measure the ruin or prosperity of various areas, you can illustrate the effects that player actions have over time, and possibly give them a some visual cues for what they could potentially manipulate.

Example: Blight and Flourishing

Blight and Flourishing is a scale that represents how suited environment in a given area is for supporting life. (See diagram below)

Blight means hardly anything can live in those hard lands, while flourishing means life is thriving and abundant!

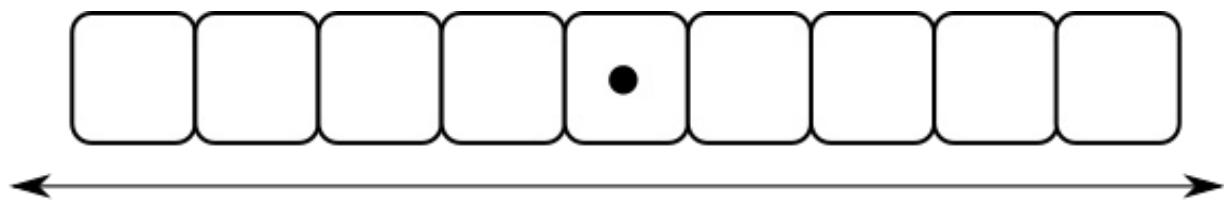


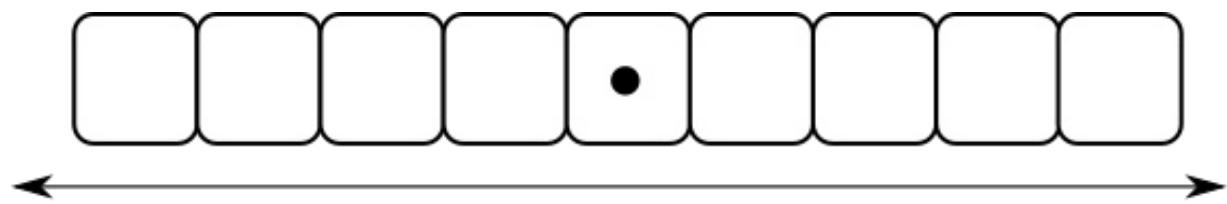
In this case, the area is still balanced, but is close to suffering from ecological disaster. If the player characters wipe out too much of a local predator, it could upset the balance of the ecosystem, as there's no longer anything to keep prey in check, and the local flora get decimated by the prey animals. (Perhaps causing mud slides into the river, since those plants were what kept the riverbanks from eroding!)

On the other hand, if the players instead introduced a species of plant that can thrive in these conditions without harming the other flora, that may lead to a sudden surge of new life, nudging it out of balance and into flourishing, with nature taking a greater hold on the environment!

This is also an example where linear scales can be seen as cyclical, since too much life thriving in one area, could yet again trigger some other unforeseen consequences.

The new plant introduced earlier, could also happen to grow faster than any prey animals could reasonably keep in check, causing some other ecological problems as the plant runs rampant!



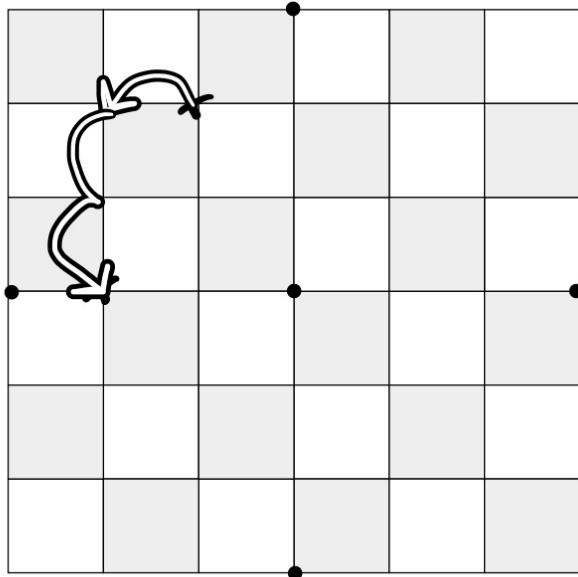


Square Scales

Squares Scales use two dimensions, and depending on how extremes are placed, it can represent different phenomenon.

Origin is placed at the intersection of the two center most lines. The extremes can either be placed at the corners, or along the edges.

No matter what configuration is used, all movement is along intersecting lines (Below: movement on an Edge type Square Scale)

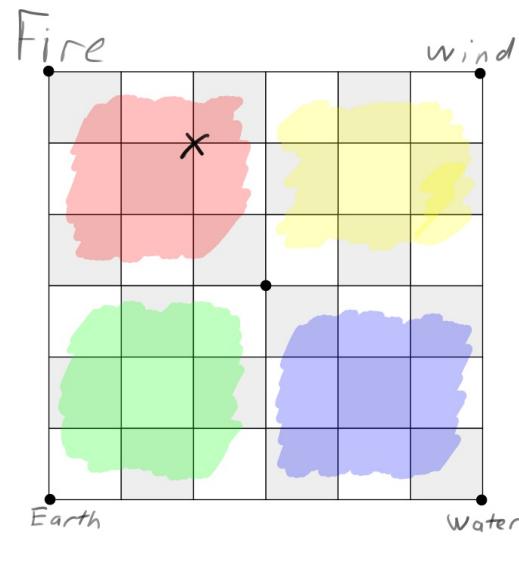


Corners

This configuration means only one Extreme can ever reign supreme compared to all others.

Example: Balance of Earth, Wind, Fire, and Water

Here, we have a square scale with the extremes being Fire, Earth, Water, and Wind located at the corners. (See diagram below)



Extremes & Balances	
Neutral	6
Fire	13
Wind	11
Water	3
Earth	1

Let's say this is a game where the four classical elements are an integral part of the world, specifically in the case of using magic. This scale adds some extra import to different spells having different elements.

For sake of argument, let's say that the element of a spell is benefited or hindered based on the current Balance.

The GM could implement a rule like so:
Mana Cost Discount = [Element's Balance]
Damage Bonus Per Die = [Element's Balance] / 2 (Round Down)

This means that under the current Balance, where Fire's Balance is at +3, all fire spells would cost 3 less Mana, and do 1 extra damage per die.

Meanwhile, since Wind is at +1, wind spells cost 1 less mana, but gain no such extra

Being at -1, earth spells will cost 1 EXTRA mana, and deal 1 less damage per die

And with Water's Balance of -3, water spells would cost 3 more mana, and deal 2 less damage per die!

This creates a situation where specializing in just one kind of magic can be wildly detrimental, especially if it's to the exclusion of any other ability!

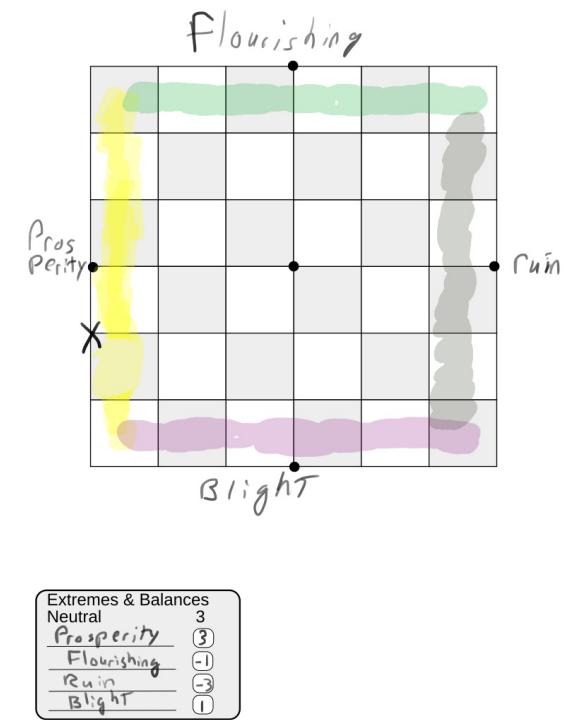
It also gives weight to any sort of ability or events that can alter the landscape, since it would introduce a direct reason to engage in such alterations.

Edges

This configuration means that each Extreme has only one opposing extreme, as if they were two linear scales placed atop one another.

Example: Nature and Civil Well Being

Let's say you want to use the edges of a Square Grid to track how well the natural world and the civilized world are doing. (See diagram below)



In this case, each entire edge counts as an extreme; meaning you can have two extremes maxed out at once.

The Balance for this example shows Prosperity is maxed out, but leaning just ever so slightly towards Blight.

Perhaps the people living in this area are industrious, but not sustainably so. They have all manner of man-made luxuries, but the environment is starting to suffer for their progress.

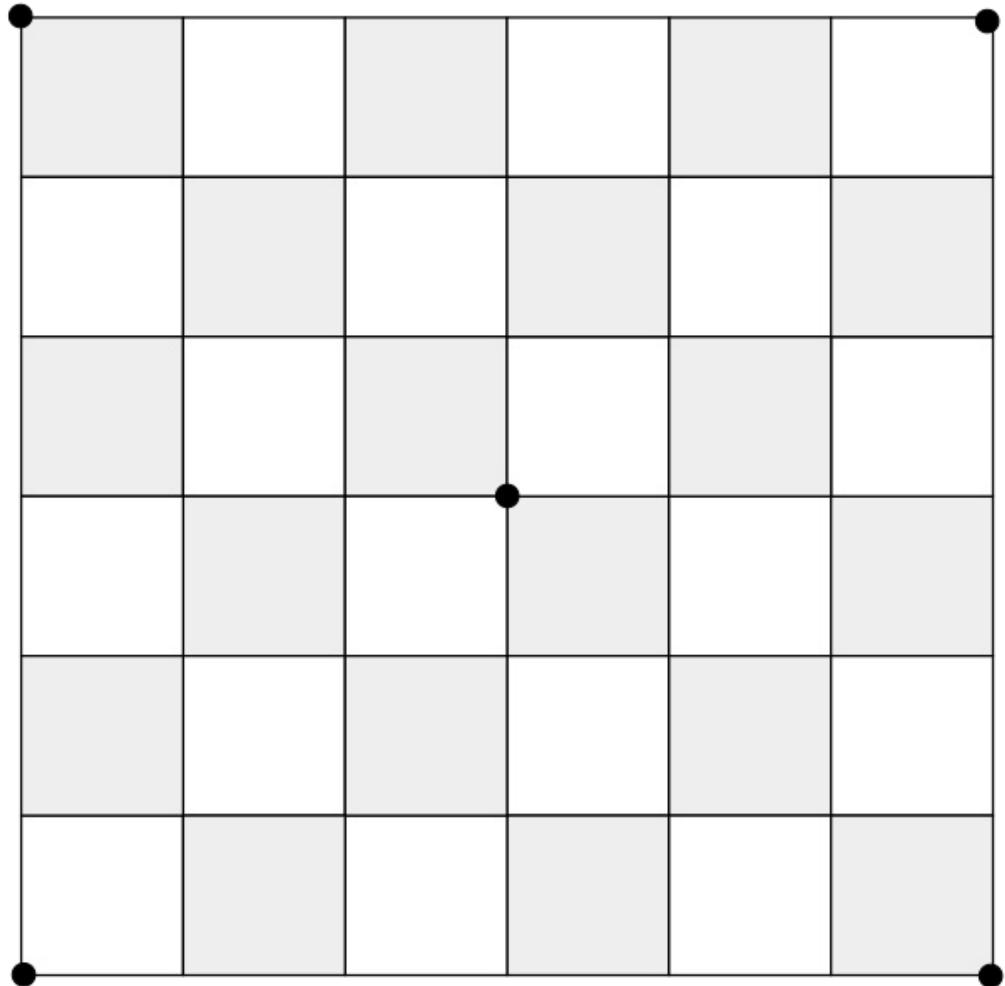
It may only be a matter of time before their expanding productivity makes the surrounding landscape even less hospitable. This could suggest that some eco-terrorists may take things into their own hands if things continue to get worse.

And thus, that the player characters may find an opportunity in helping them. (Or stopping them!)

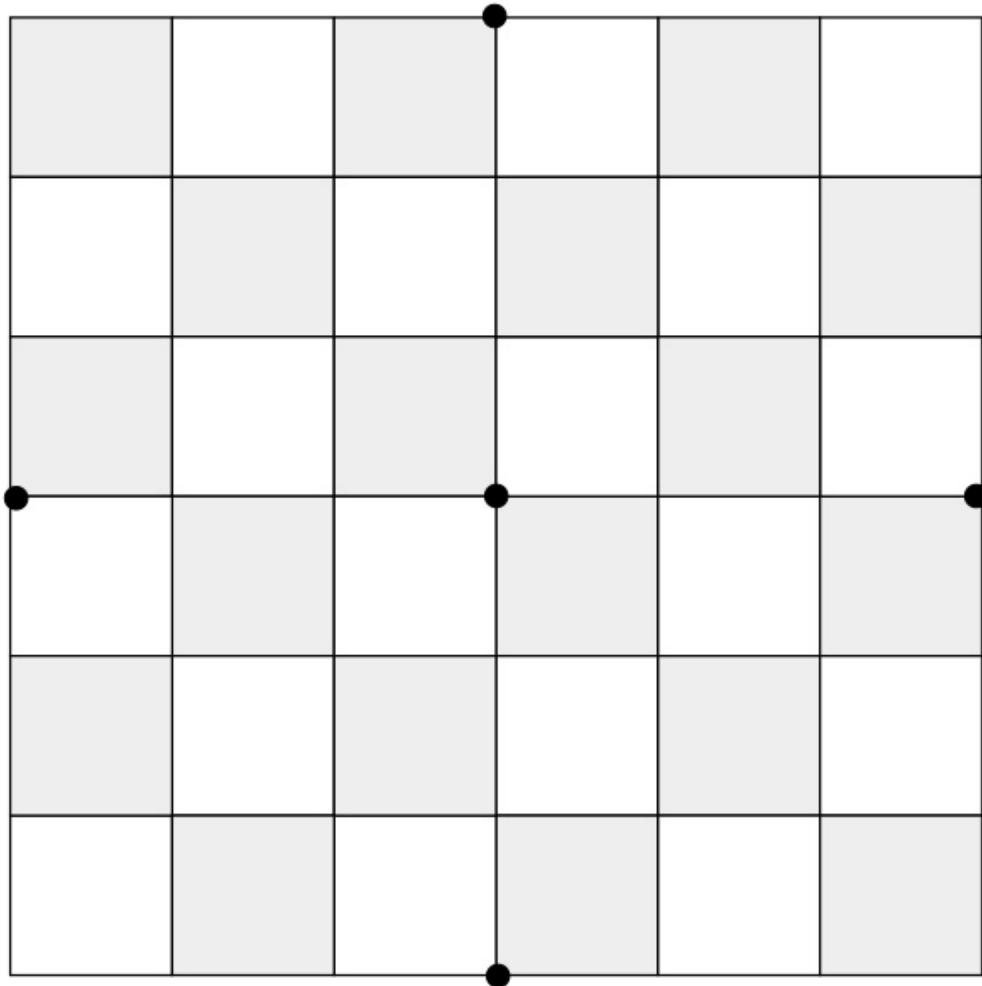
Until that time comes, though, this would be a place where one could find all the modern marvels of technology currently available. There'd be thriving industries that people would come from far and wide to trade for the final products of.

And perhaps, for individuals inclined towards sociopathic behavior, ample trade caravans and warehouses to loot and plunder

Perhaps folks forced to the fringes and to live among the withering landscape, might be such individuals who would take advantage of wealth so easily amassed in one place.



Extremes & Balances	
Neutral	6
_____	<input type="radio"/>

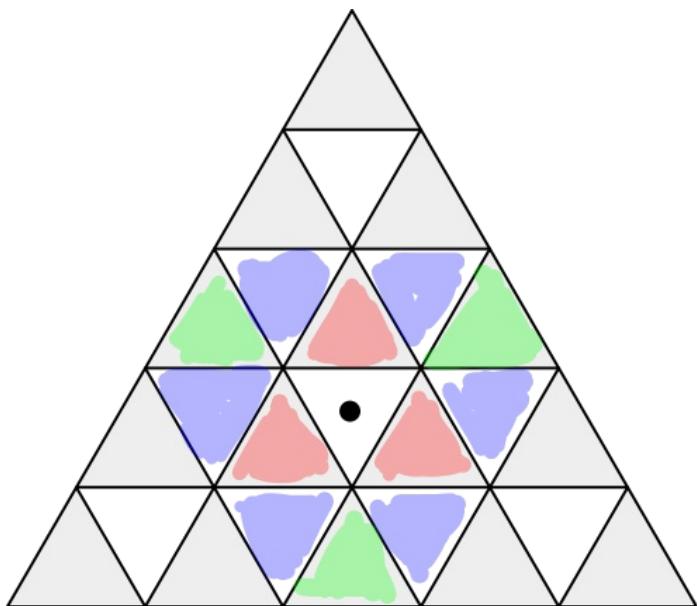


Extremes & Balances	
Neutral	3
_____	<input type="radio"/>

Triangle Scales

Triangular scales use the space of the triangle to measure Balance and Extremes.

Movement can be made to any triangle touching where movement is starting from.
(See diagram below.)

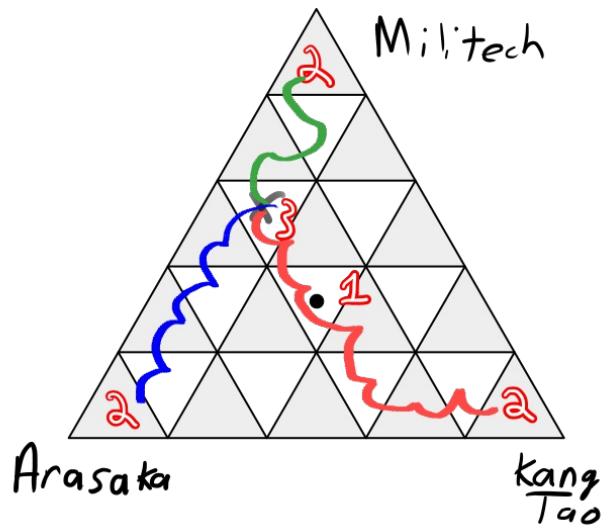


While movement can be made to any space touching Center, it's important to remember that Balance is measured by only counting spaces that touch at the edges! (In the diagram above, these would be the red spaces touching the origin.)

This means that not all movement will affect Balance the same way. Moving from the Origin to a red space will give one extreme a +1, while the other two receive a -1.

Meanwhile, Green gives, +1 to two extremes, and -3 to the other!

Consider the diagram below, as an example for determining Balances.



- 1 - Origin
- 2 - Extremes
- 3 - Center

Each line starts at the Center and moves towards an extreme, with each bump or curve representing moving to the next space.

Thus, if Neutral is 5...

- Militech is $[5] - [3] = +2$
- Arasaka is $[5] - [5] = 0$
- Kang Tao is $[5] - [7] = -2$

Example: Honorable, Suits, and Zomboids

Two rival factions are constantly fighting against one another: The Honorable, and The Suits

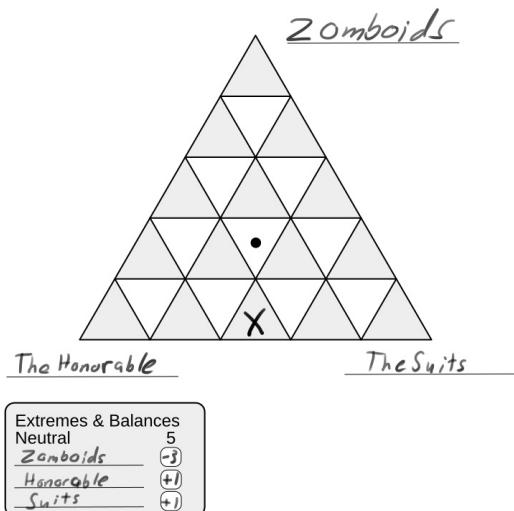
The player characters are unaffiliated with either group, but despite being bystanders are otherwise exceptionally powerful individuals in this conflict.

Abruptly, a third faction appears on the scene: The Zomboids. Mindless creatures that grow their ranks by assimilating the dead.

Balance could also influence how a group is likely to react in a given scenario. Under the current Balance, Honorable and Suits both have the upperhand over the Zomboids.

The Zomboids may be seen as little more than a nuisance by the other two. Any zomboids that DO appear, are likely to be feeble or few in number.

If the players want to give the Suits or Honorable a lesson in humility, they could engage in sabotaging either side's defenses, or lure the Zomboids in to ambush them.

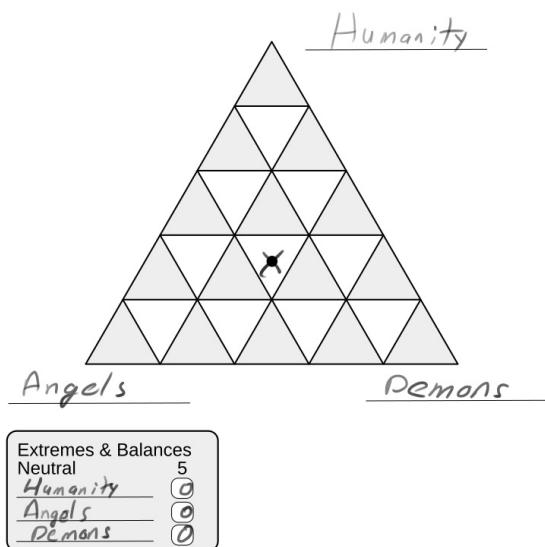


In this scenario, the scale represents which faction of the three holds the most sway. The player characters' actions, such as sabotaging the efforts of one of the living factions, or relentlessly hunting the zomboids, could shift Balance in any way.

Example: Angels, Demons, and Humanity

Let's say you want to make a ttRPG that reminiscent of a certain video game RPG about the end of the world, with angels and demons fighting for its fate, and humanity kind of caught in between.

And you're starting off fresh, with how the player characters resolve certain acts in the story tipping the Balance accordingly. (See diagram below)



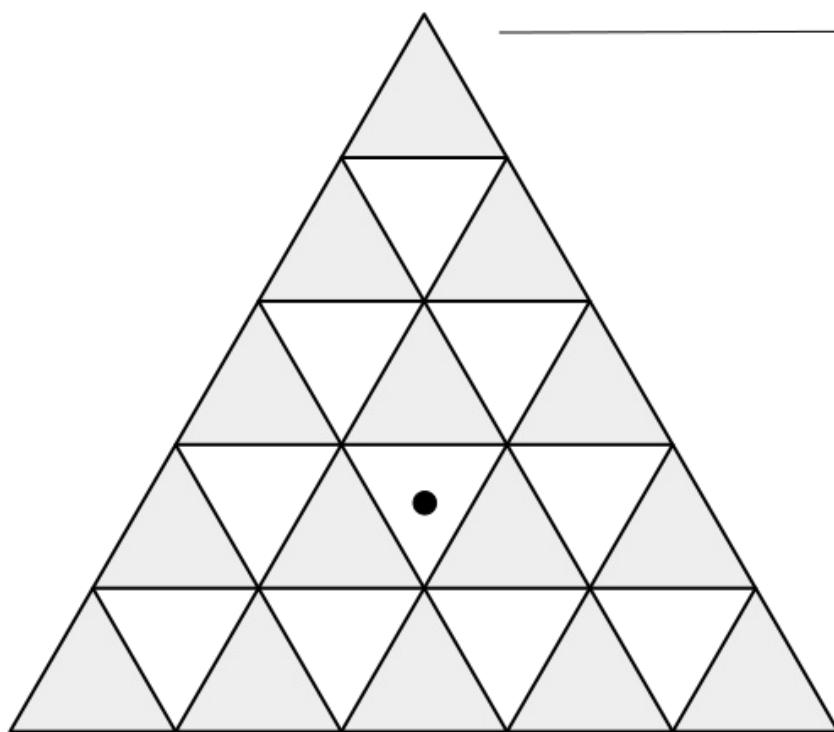
Angels and demons typically represent two sides to humanity; the compliant side that works within hierarchies, and the opportunistic side that'll exploit others for their own gain.

If the PCs side against one faction, or the others, it'll ultimately advance the agenda of the other.

The only real way to move the balance towards humanity, would be to convince what remains of humanity to stand up for themselves, and accept no gods or masters but themselves.

...which would be a very challenging thing to do, given the power anybody could achieve by taking one side or the other.

If humanity does manage to carve out a place for themselves, represented by giving themselves a positive Balance, it would imply that the angels or demons might be willing to see them as equals. Assuming the side they're dealing with has a relatively weaker balance, anyways.



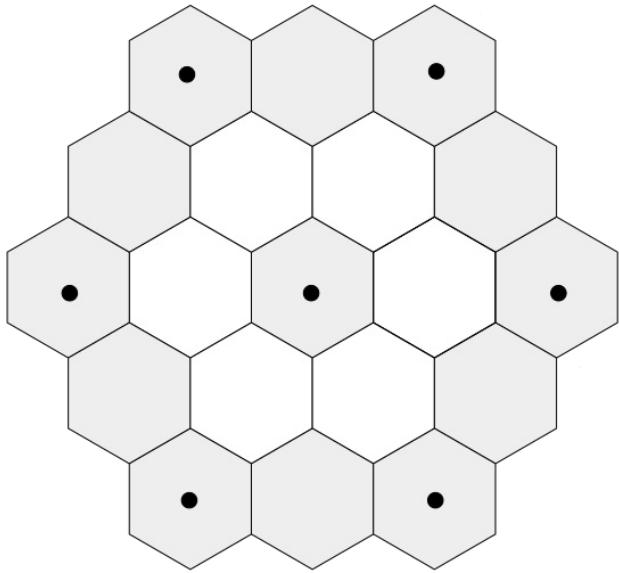
Extremes & Balances
Neutral

5



Hexagon Scales

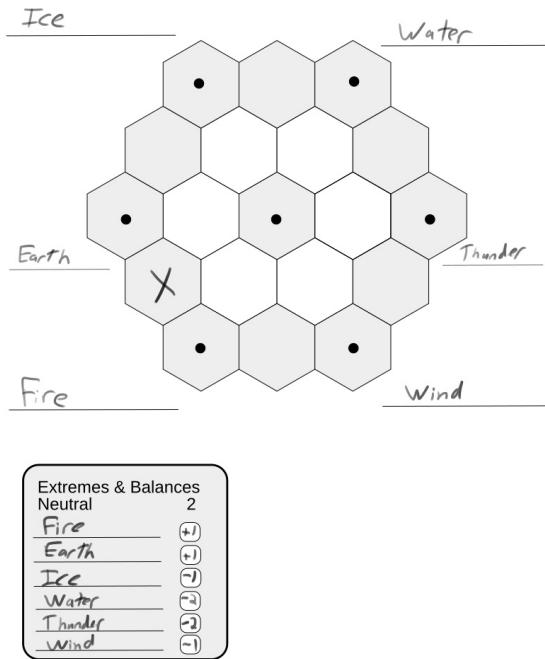
Hexagonal scales go in six directions, with their Origin being the center. The extremes are located at the edges in a straight line from the Origin.



At the above size, Hexagon Scales can be deceptive. While it looks like it could potentially have 12 Extremes, extremes are determined by the furthest point away from the origin in a straight line. I.e, moving from one tile to another in one direction. (See the dots in the diagram above.)

Example: Balance of 6 Elements

Let's say this is a game where there are six elements that are an integral part of the world, specifically in the case of using magic. This scale adds some extra import to different spells having different elements.



For sake of argument, let's say that the element of a spell is benefited or hindered based on the current Balance.

The Game Master could implement a rule as follows:

Mana Cost Discount = [Element's Balance]
Damage Bonus Per Die = [Element's Balance]

This means that under the current Balance, where Fire and Earth are at +1, all Fire or Ether spells would cost 1 less Mana, and do 1 extra damage per die

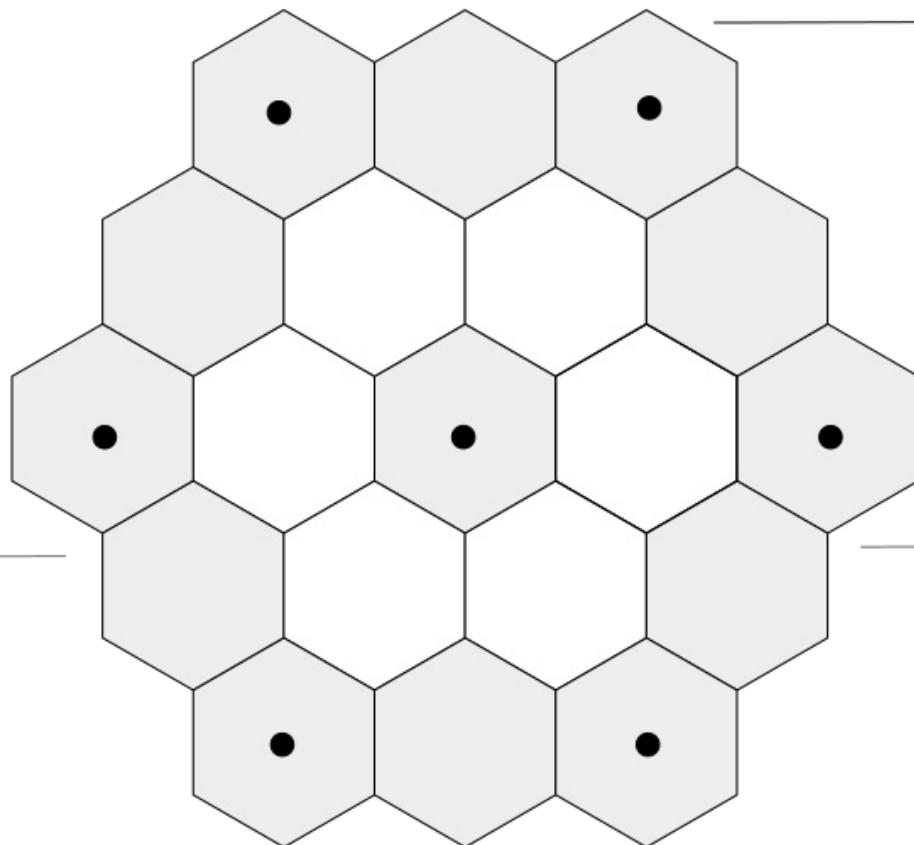
Meanwhile, any Ice or Wind spell would cost at least 1 ADDITIONAL Mana, and deal at least 1 less damage per die.

These penalties move up to 2 in the case of Water and Thunder!

This creates a situation where specializing in just one kind of magic can be wildly detrimental, especially if it's to the exclusion of any other ability!

This sort of visualization also gives us a few different ways to group different schools of magic, based on the elements of spells they may specialize in. Some of you may have noticed that the 6 elements listed here are the same typically used in Final Fantasy games – Fire, Ice, and Thunder for Black Magic, and Wind, Water, and Earth for White.

However, some other groupings we could use here are Fire and Earth, Wind and Thunder, and Water and Ice for Magma, Storm, and Frost mages; for if we want to break away some from the Final Fantasy motifs.



Dodecagons & Organization

Why a twelve sided shape?

Twelve is on the border of human short term memory. Those with the best memory, remember about this many distinct items.

Human average is closer to 5~7. with 5 being the bare minimum. If somebody struggles with that, they're probably losing their mind in a way that suggests they're simply incompetent. This is a "well duh, anybody can do that" kind of an ability.

That said, there are some mnemonic devices that do allow us to remember more; things like grouping information into relevant chunks and then remembering those chunks and how to unpack them.

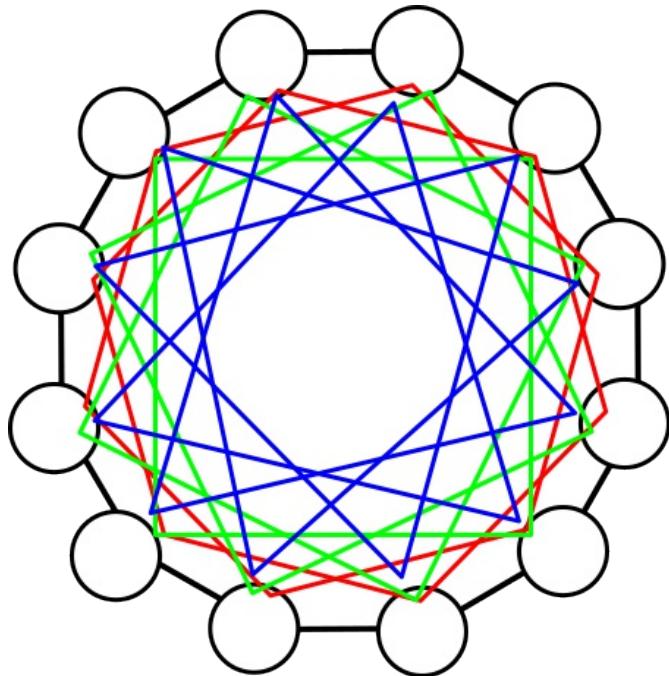
That is what this dodecagon is for. It's a visual mnemonic for representing a lot of different, somewhat related ideas.

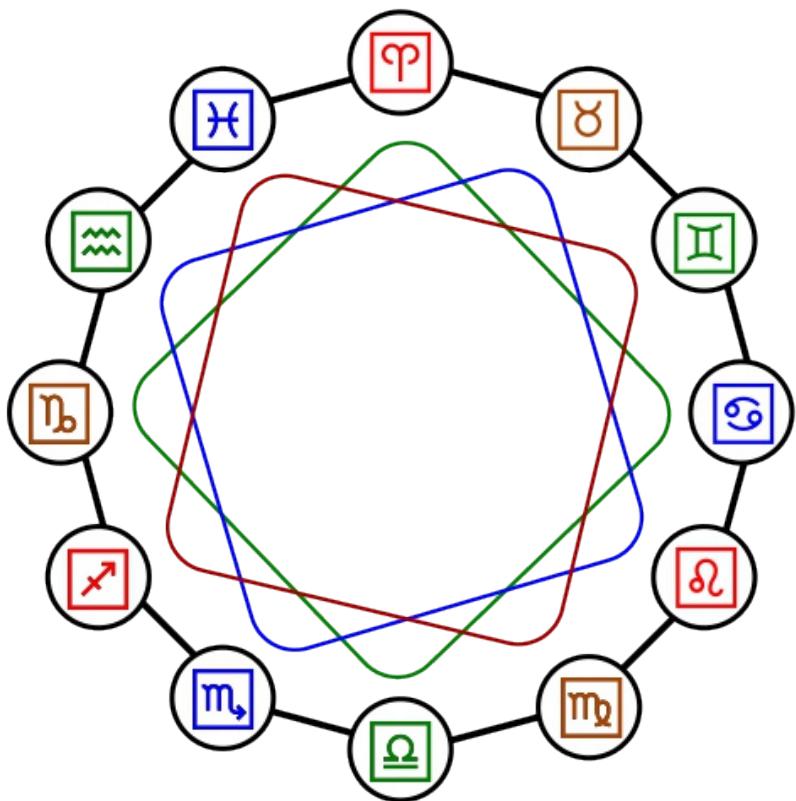
Twelve also happens to be a relatively small number that can be divided into various, other small numbers fairly easily. Such as:

$$\begin{aligned}2 \times 2 \times 3 &= 12 \\4 \times 3 &= 12 \\6 \times 2 &= 12 \\8 + 4 &= 12 \\9 + 3 &= 12\end{aligned}$$

As we see here, and in the illustration nearby, there are many ways to split up the number 12 into other, smaller groups.

The most important part of this dodecagon is that you don't necessarily need to use every space; if you don't need it, feel free to leave it blank!





Aries



Libra



Taurus



Scorpio



Gemini



Sagittarius



Cancer



Capricorn



Leo



Aquarius



Virgo



Pisces

Example: The Zodiac

There's a surprising amount of patterns in the western zodiac. You know the one: when somebody asks "what's your sign?" and if you don't know, they follow up with "what's your birthday?"

The zodiac is composed of two concurrent cycles that tick up by every month or so. The cycles are:

Positions, which include Cardinal, Fixed, and Mutable.

Elements, which are Fire, Earth, Wind, and Water.

Each sign is made up of a combination of a Position and an Element, for a total of twelve signs.

In this chart, we use the following colors to represent the elements:

Fire is Red

Earth is Brown

Water is Blue

Wind is Green.

The squares in the center point to all signs of the same position.

Green square's corners point to Cardinal signs.

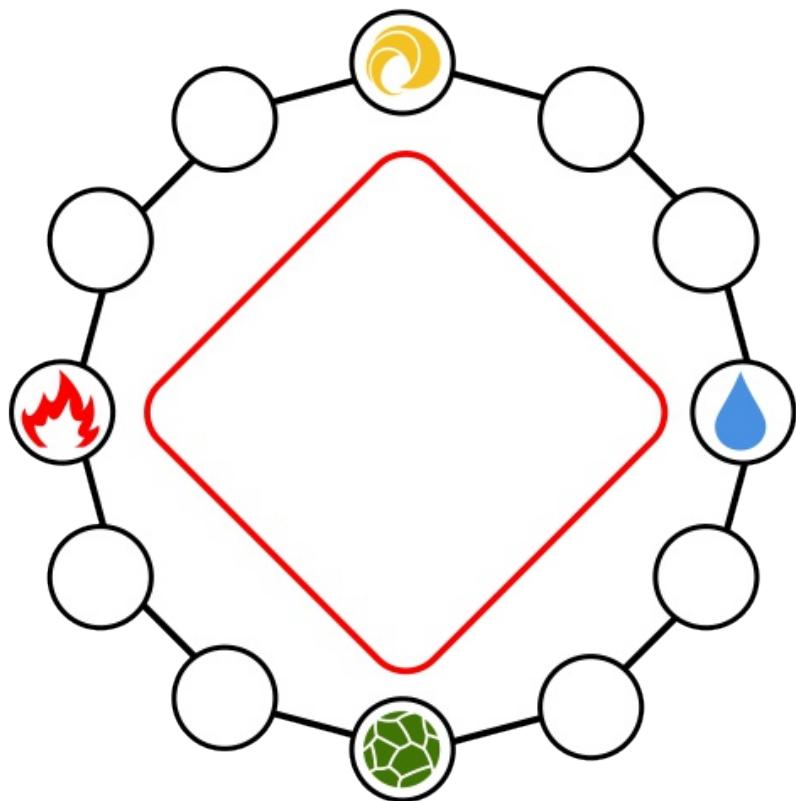
Blue square's corners point to Fixed signs.

Red square's corners point to Mutable signs.

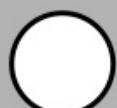
This shows we have four signs to each position, and three signs for each element.

Additionally, each Position cycle (a sequence of Green, Blue, and Red corners) represents a different season of the year. (E.g. Aries, Taurus, and Gemini are Spring, followed by Cancer, Leo and Virgo for Summer.)

This sort of thing could be used to influence a magic system in a game, or some other aspect of character creation.



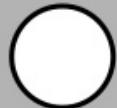
Wind



Water

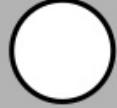


Earth

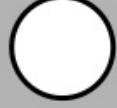


Fire









Example: Four Basic Elements

This is a much smaller scale application of using a dodecagon. I did this mostly to illustrate that you don't need to use everything. This particular layout leaves a lot of space for hand written notes.

Much like the squares in the above, a square is used to bring everything together, which is useful for if you wanted to include some details along the lines, such as how one element may "convert" or "interact" with its neighbors.



Wind



Water



Earth



Fire



Ice



Thunder



Light



Dark



Space

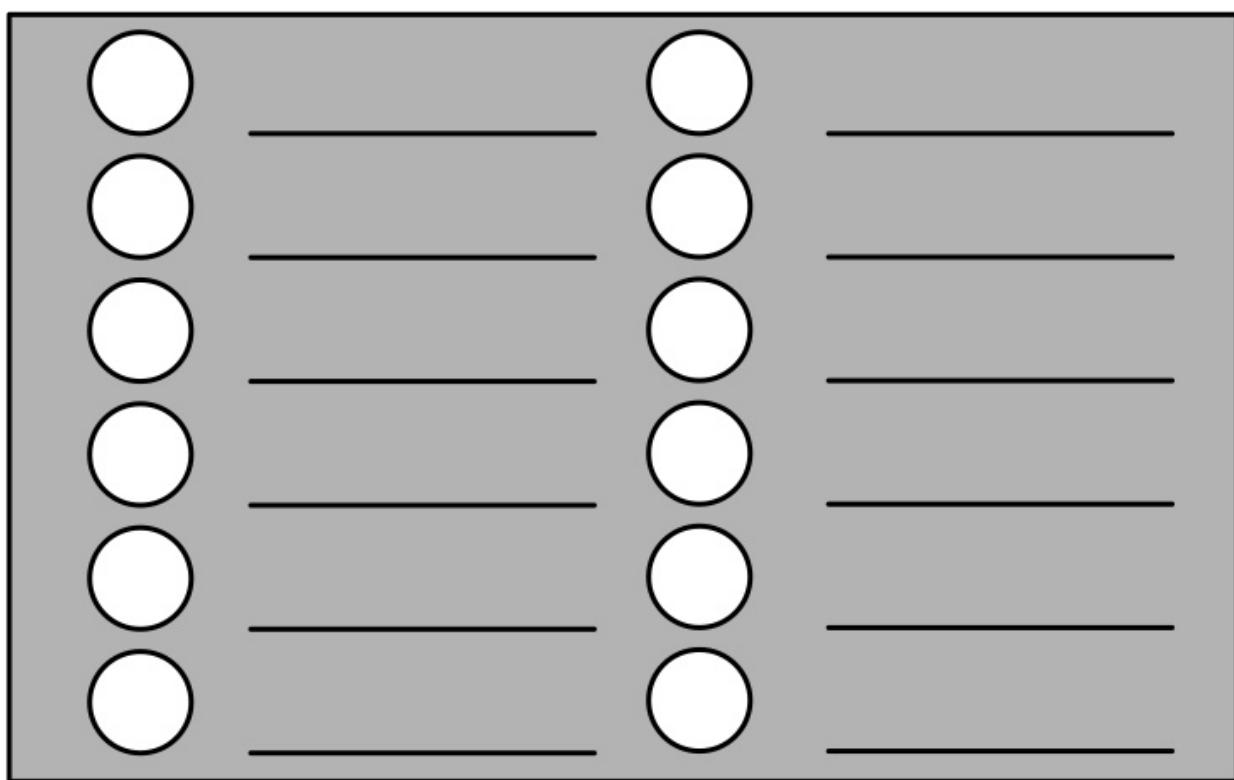
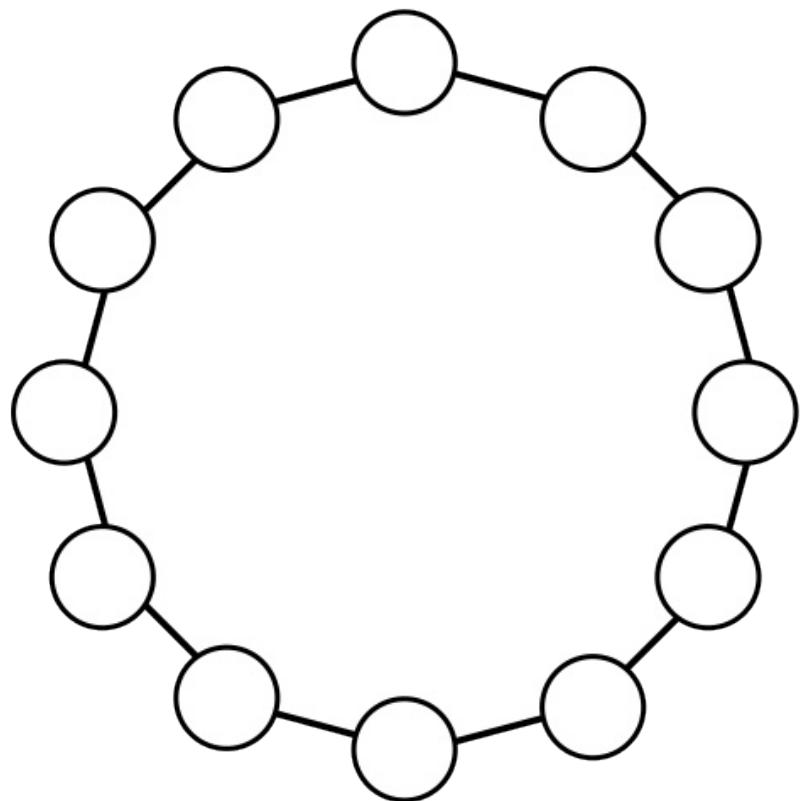


Time

Example: Final Fantasy Elements

This is an arrangement of elements that typically appear in the Final Fantasy games. The red triangle in the center here links all the elements that typically fall under “White Magic,” with the blue triangle doing the same for “Black Magic.”

We also include two obviously opposed elements, Light and Dark, at the top and bottom of the dodecagon. Then we round out the last of the elements by including some that don’t quite fit in, but are present and worth mentioning: Time and Space.



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