

The Game Design of Pokémon Types

The goal of this analysis is to:

1. **Discover** a relationship between Pokémon types, how they respect Player's **expectations**, their **stats** and how they appeal to different **Player types**
2. Create a **framework** that could be used to Design new Pokémon Types, new Pokémon-like Systems or Analyze existing Pokémon-like Games to find weaknesses and improvable points
3. Understand how the **asymmetric** types relationships, as well as the asymmetric type strengths, are **balanced** with Stats, the Growth rate of the Pokémon and other factors
4. Schematize the **thought process** used to develop Pokémon of different types
5. Provide an **aggregated** source of different Data regarding Pokémon

Premises

- The Data is updated until **Generation 8 of Pokémon**
- The Data is not taking into consideration **Mega Evolutions**, since they are a Mechanic that's not being used anymore and a special, temporary state of some specific Pokémon that are often selected because of Brand Identity reasons and not in-game balance reasons
- The Tuning and Design analysis focuses mostly on the **Single Player experience**, although some parallels can be drawn with the Multiplayer Competitive Experience
- **Player's expectations** of a Pokémon Type are a balance of expectation based on **real-life** or prior **RPG knowledge** and prior knowledge of **other Pokémon** of the same Type

Datas taken into account

To complete the analysis, the following data was collected and interpreted in this way:

- **Type distribution**: the amount of Pokémon of a specific Type
 - **"Distribution"** is an arbitrary measurement that values **single-type Pokémon 2 times**
 - To avoid biases, data about Single Type Pokémon and a more standard count of Pokémon Types are also provided, but **Distribution** is used as the **main** source of confrontation
- **Evolution state type**: the evolution state of the Pokémon, divided into 5 categories:
 - **First**: the Pokémon has never evolved but can evolve
 - **Mid**: the Pokémon has evolved before and can evolve again
 - **Last**: the Pokémon has evolved before but can't evolve anymore
 - **Only**: the Pokémon has never evolved and will never evolve
 - **Baby**: in-game definition of a [Baby Pokémon](#)
- **Pokemon Stats**: the "Base values" of the Stats of each Pokémon, taken from various sources
- **Type relationships**: the relationships of strength, resistances and weaknesses of each Type
 - By Design, Types Relationships need to mostly be intuitive and logical (Fire > Grass > Water > Fire); this is referred to as the **"Intuitivity" constraint** in the analysis
 - In the analysis, the **Defensive** Properties are valued more than the **Offensive** ones, since a Pokémon can't typically change its type but can easily learn moves of different Types
- **Pokemon Evolution method and level**: the way Pokémon of each Type can Evolve:
 - **Leveling**, including the Average level of evolution
 - Use of an **Item** (which includes learning a specific move)
 - **Trading** (including trading while holding an item)
 - Reaching a certain amount of the **Friendship** stat
 - **Special** methods or other special requirements are **not considered** in the analysis
- **Pokémon Experience Curves by level**: to know more on this topic, refer to [this page](#)

Special Cases

The following special cases were handled as follows in the Analysis:

- Pokémon from **Pokémon Legends Arceus** have an estimate of their stats, since the stat system is different from the main-line games; this could create some minor errors in the future once their stats are properly displayed in a main-line game
- **Castform** is considered only once, as a normal type Pokémon
- The same applies for **Arceus**
- The same applied for **Genesect**, considered as a Bug Steel Type
- **Shedinja** has an HP base stat of 60, the average of other Bug and Ghost types
- **Toxtricity** is considered once
- **Zacian** e **Zamazenta** are considered once in their “full” mode because it’s the standard way of using them and they get turned into it at the start of the fight
- **Meowstic**, IndeeDee are considered two times, because of the widely different move pools of the male and female variants
- **Zygarde** is only considered in its 50% State, since the 10% State has characteristics of a pre-evolution form but its evolution method is a particularly special one, and the Perfect Form is a temporary state unlocked in battle after losing more than 50% its HP
- **Darmanitan** and its **Galarian** variant are considered in their Base forms, not the Zen ones, because they are temporary forms triggered when they lose 50% of their HP
- The following **multi-forms Pokémon** are considered in **all their forms** because of the widely different Stat pools: Deoxys, Cherrim, Dialga, Palkia, Giratina, the 3 Genies, Kyurem, Meloetta, Aegislash, Hoopa, Lycanrock, Minior, Necrozma, Eiscue, Calyrex and Basculegion

Sources

- **Pokémon list with Stats** taken from Serebii.net ([link](#))
- **Pokémon list with Typing** taken from Bulbapedia.net ([link](#))
- **Pokémon list with evolution levels** taken from Bulbapedia.net ([link](#))
- **Pokémon list with Experience Curve** taken from Bulbapedia.net ([link](#))
- **Pokémon Typing relationship** table take from pokemondb.net ([link](#))
- **Various data** and confirmation of collected data taken from pokemondb.net ([link](#))
- “What’s the Best Pokémon Type? The Power of Metrics” by Luciano Strika ([link](#))

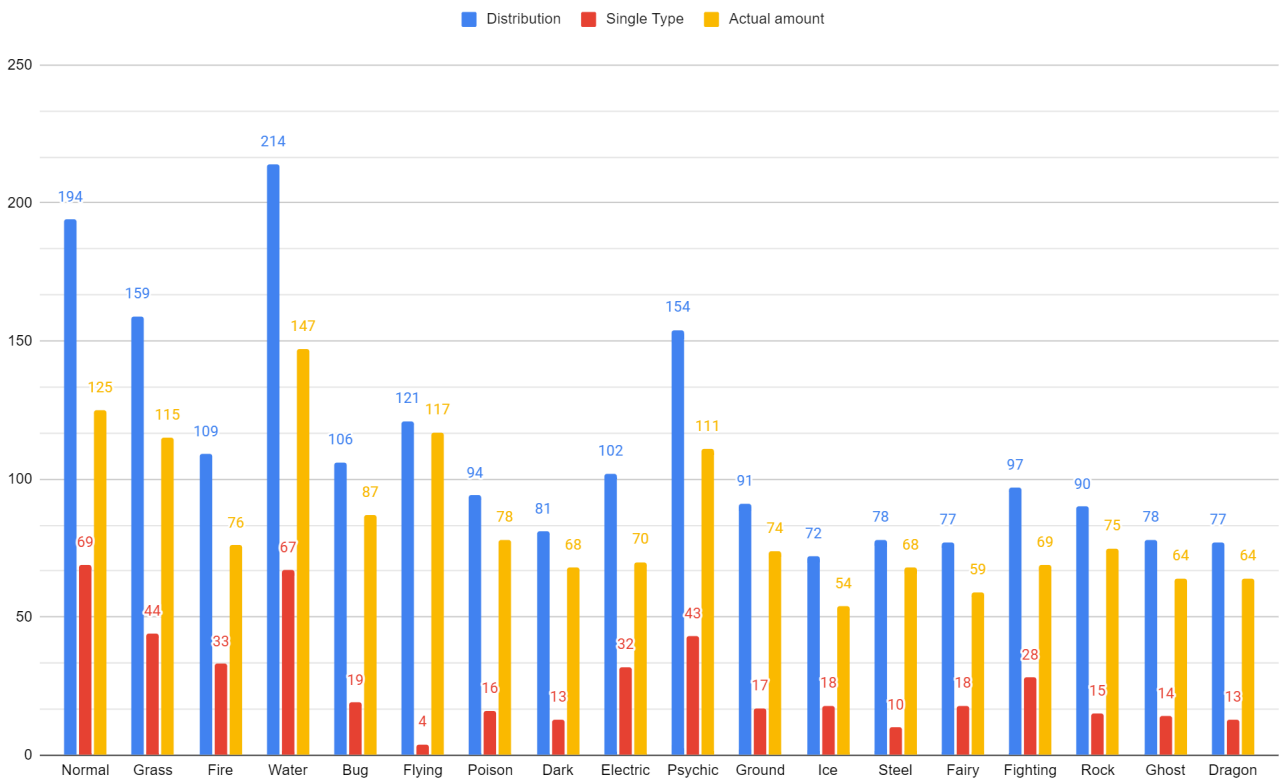
Data Collection and Analysis

To read all the collected data: [📄 Game Analysis - Pokémon Types Data - Simone Cicchetti](#)

For the sake of the analysis I will copy and paste some of the charts, but it is recommended, if possible, to **often jump from this analysis to the Spreadsheet** for the best understanding of the data.

Types Distribution Data

Distribution, Single Type and Actual amount



This chart shows data that won't surprise any Pokémon fan: Water is the most common type, followed by Normal, Grass, Psychic and Flying. The Ice type is the least present, followed by Fairy, Dragon, Ghost and Steel.

Considerations

This chart alone **isn't enough** to judge Pokémon Types, but there are some relationships between what are considered the **strongest types and their rarity**, like Dragon and Steel type being rarer than the Grass type. However, the Psychic type is also considered strong but it's very common, and the Ice type is considered pretty weak but it's the rarest one.

This Chart will become more useful once paired with other elements of the analysis.

Types Relationships

DEFENSE → ATTACK ↓	NOR	FIR	WAT	ELE	GRA	ICE	FIG	POI	GRO	FLY	PSY	BUG	ROC	GHO	DRA	DAR	STE	FAI
NORMAL	1	1	1	1	1	1	1	1	1	1	1	1	½	0	1	1	½	1
FIRE	1	½	½	1	2	2	1	1	1	1	1	2	½	1	½	1	2	1
WATER	1	2	½	1	½	1	1	1	2	1	1	1	2	1	½	1	1	1
ELECTRIC	1	1	2	½	½	1	1	1	0	2	1	1	1	1	½	1	1	1
GRASS	1	½	2	1	½	1	1	½	2	½	1	½	2	1	½	1	½	1
ICE	1	½	½	1	2	½	1	1	2	2	1	1	1	1	2	1	½	1
FIGHTING	2	1	1	1	1	2	1	½	1	½	½	½	2	0	1	2	2	½
POISON	1	1	1	1	2	1	1	½	½	1	1	1	½	½	1	1	0	2
GROUND	1	2	1	2	½	1	1	2	1	0	1	½	2	1	1	1	2	1
FLYING	1	1	1	½	2	1	2	1	1	1	1	2	½	1	1	1	½	1
PSYCHIC	1	1	1	1	1	1	2	2	1	1	½	1	1	1	1	0	½	1
BUG	1	½	1	1	2	1	½	½	1	½	2	1	1	½	1	2	½	½
ROCK	1	2	1	1	1	2	½	1	½	2	1	2	1	1	1	1	½	1
GHOST	0	1	1	1	1	1	1	1	1	1	2	1	1	2	1	½	1	1
DRAGON	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	½	0
DARK	1	1	1	1	1	1	½	1	1	1	2	1	1	2	1	½	1	½
STEEL	1	½	½	½	1	2	1	1	1	1	1	1	2	1	1	1	½	2
FAIRY	1	½	1	1	1	1	2	½	1	1	1	1	1	1	2	2	½	1

This chart shows each Type relationship with one another, their weaknesses and strengths.

We can **condense** these info in the following tables:

	Attack					Defense			
Types	0	½	1	2	Types	0	½	1	2
NORMAL	1	2	15	0	NORMAL	1	0	16	1
FIRE	0	4	10	4	FIRE	0	6	9	3
WATER	0	3	12	3	WATER	0	4	12	2
ELECTRIC	1	3	12	2	ELECTRIC	0	3	14	1
GRASS	0	7	8	3	GRASS	0	4	9	5
ICE	0	4	10	4	ICE	0	1	13	4
FIGHTING	1	5	7	5	FIGHTING	0	3	12	3
POISON	1	4	11	2	POISON	0	5	11	2
GROUND	1	2	10	5	GROUND	1	2	12	3
FLYING	0	3	12	3	FLYING	1	3	11	3
PSYCHIC	1	2	13	2	PSYCHIC	0	2	13	3
BUG	0	7	8	3	BUG	0	3	12	3
ROCK	0	3	11	4	ROCK	0	4	9	5
GHOST	1	1	14	2	GHOST	2	2	12	2
DRAGON	1	1	15	1	DRAGON	0	4	11	3
DARK	0	3	13	2	DARK	1	2	12	3
STEEL	0	4	11	3	STEEL	1	10	4	3
FAIRY	0	3	12	3	FAIRY	1	3	12	2

Red = better, i.e. having many "X2" in attack means that a Type is strong against many others, and having few "X2" in defense means that my Type isn't weak against many others, which are good things.

The **Defensive** properties of a Type are valued as **more important** than the Offensive ones, since a Pokémon can't typically change its Type. The **weights** that got assigned to the Type relationships are:

Evaluation Weights (attack)			
0	½	1	2
-3	-2	0.5	2
Evaluation Weights (defense)			
0	½	1	2
4	3	0.5	-3

Types	Evaluation		
	Attack	Defense	Overall
NORMAL	0.5	9	4.75
FIRE	5	13.5	9.25
WATER	6	12	9
ELECTRIC	1	13	7
GRASS	-4	1.5	-1.25
ICE	5	-2.5	1.25
FIGHTING	0.5	6	3.25
POISON	-1.5	14.5	6.5
GROUND	8	7	7.5
FLYING	6	9.5	7.75
PSYCHIC	3.5	3.5	3.5
BUG	-4	6	1
ROCK	7.5	1.5	4.5
GHOST	6	14	10
DRAGON	4.5	8.5	6.5
DARK	4.5	7	5.75
STEEL	3.5	27	15.25
FAIRY	6	13	9.5

This evaluation shows us that the **best Pokémon Types** are, in order: Steel, Ghost, Fairy, Fire. The worst ones are, from **worst to “less worst”**: Grass, Bug, Ice and Fighting.

Finally, one last piece of data that is interesting to study is the **moment** in the Single Player Adventure when Players typically **encounter** a Pokémon Type. Although this changes between generations, we can distinguish 3 moments: **Early game** (first couple of routes), **mid game** (anything until Late Game) and **Late Game** or **Secret areas** (last 2 dungeons). The Pokémon Types are encountered as follows:

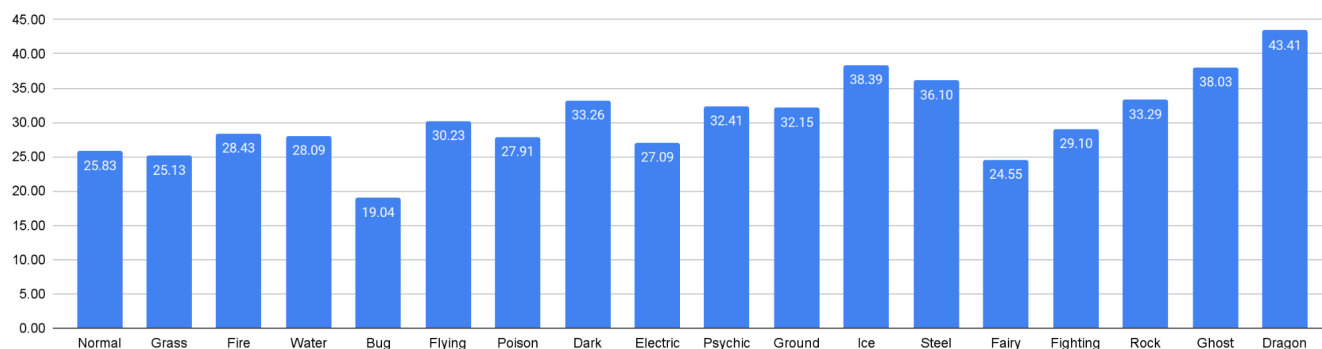
Early Game	NORMAL	4.75
	FLYING	7.75
	BUG	1
	POISON	6.5
Mid Game (no particular order)	FIGHTING	3.25
	DARK	5.75
	FAIRY	9.5
	GRASS	-1.25
	ROCK	4.5
	GROUND	7.5
	ELECTRIC	7
	WATER	9
	FIRE	9.25
	PSYCHIC	3.5
Late Game / hidden areas	GHOST	10
	STEEL	15.25
	DRAGON	6.5
	ICE	1.25

Considerations

These data are **compatible** with some of the **Distribution** data: **Ghost and Steel** types are rarer and are encountered later in the Game and have awesome Type Relationships; however, the **Dragon and Ice** type have **poor relationships**, but are rare and found later in the game too.

Evolutionary Methods, average Levels and Experience Curves

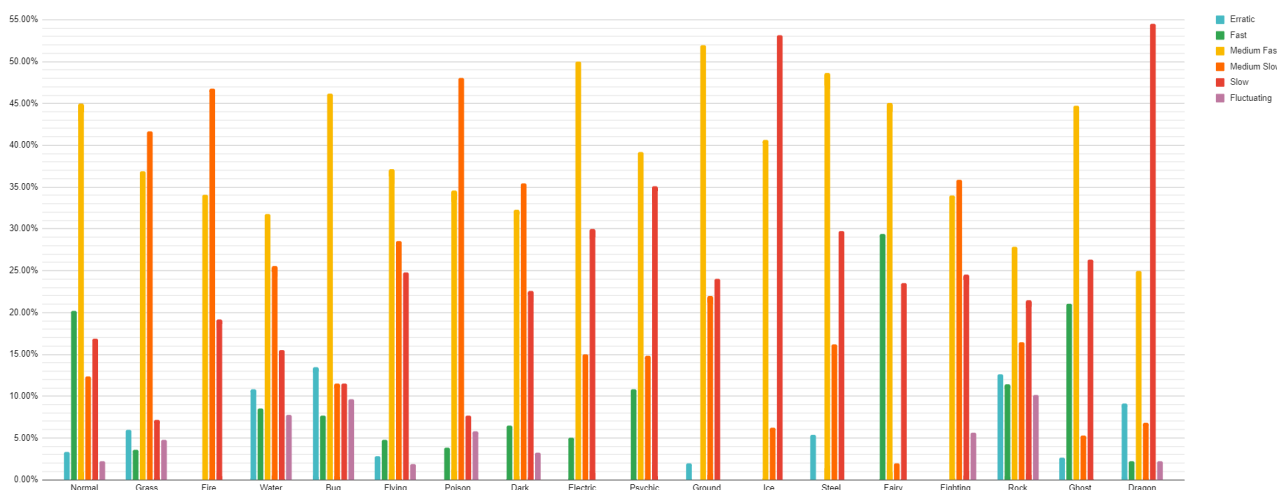
Avg. Evolution Level by Type



This chart shows that Pokémon tend to evolve around the **level 30**; the **Bug, Fairy, Grass and Normal** types evolve more quickly; the **Dragon, Ice, Ghost and Steel** types evolve more slowly.

Other Charts showing the other evolution methods can be found on the Analysis Document.

Experience Curves per Level



This chart shows the **percentages of Experience Curves per type**. Reviewing this chart on the main Document is strongly advised.

The Experience curves are mostly **confirming** the data collected from the **Evolution Level**.

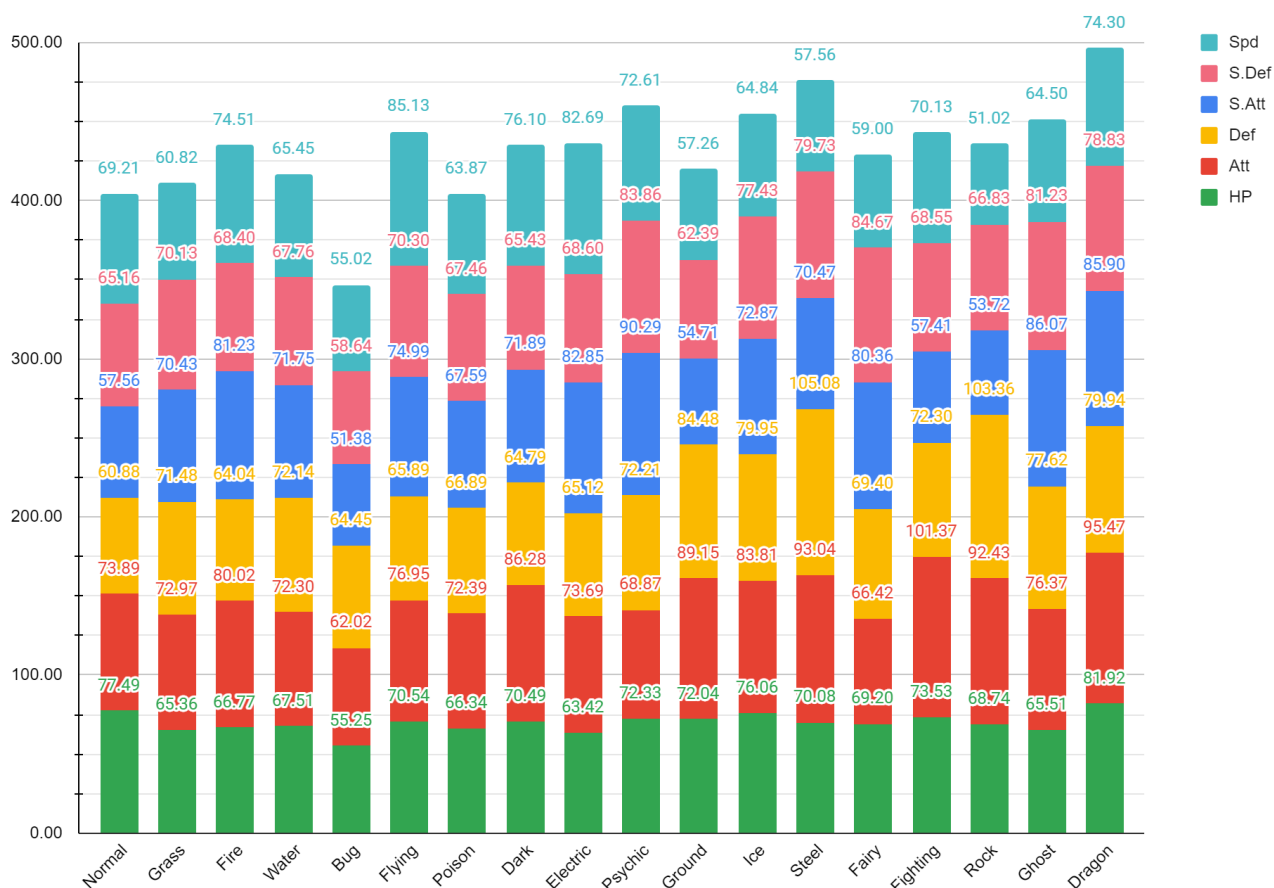
Some case-to-case considerations will be done on a Type-by-type basis.

Considerations

The **Average Evolution** level provides confirmation to some of the previous Data and gives us more insight on how the Pokémon Types are being tuned: a **prime example** is how the **Grass and Bug Type**, which have poor **Type Relationships**, are the ones that evolve more **quickly**.

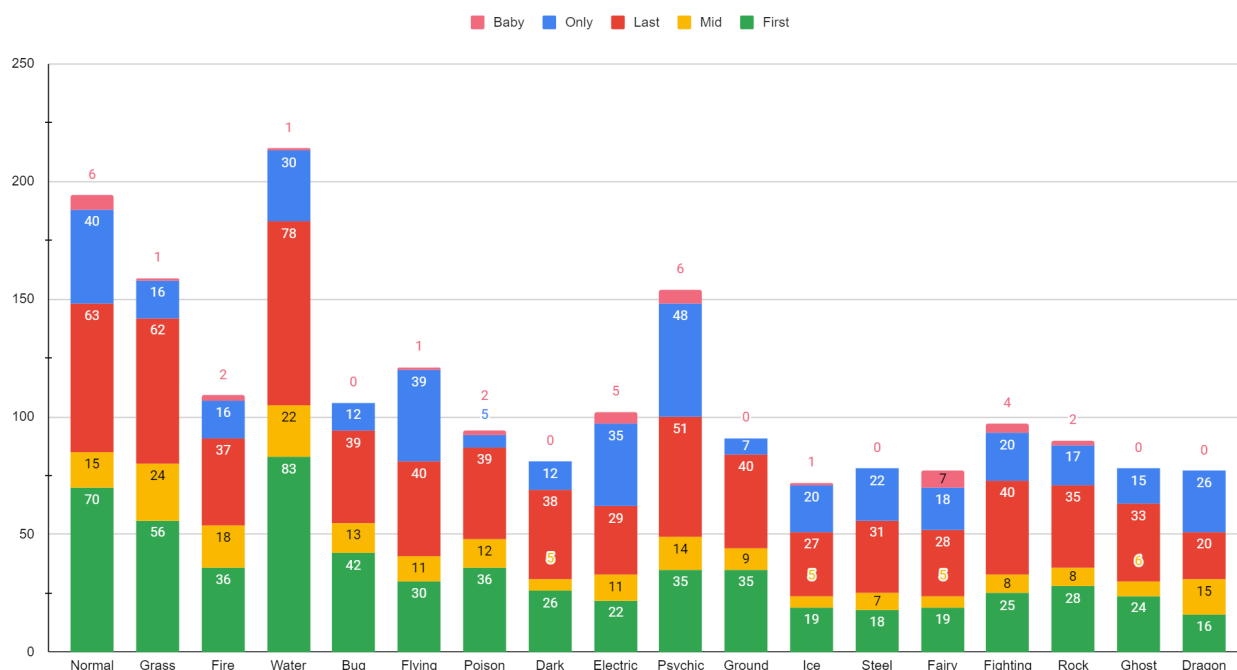
The **Dragon and Ice** Type are still treated as powerful Types with slow evolutions despite their poor **Type Relationships and Rarity**, so it's time to take a look into the **Pokémon Stats** to understand the full picture.

Average Pokémon Stats by Type

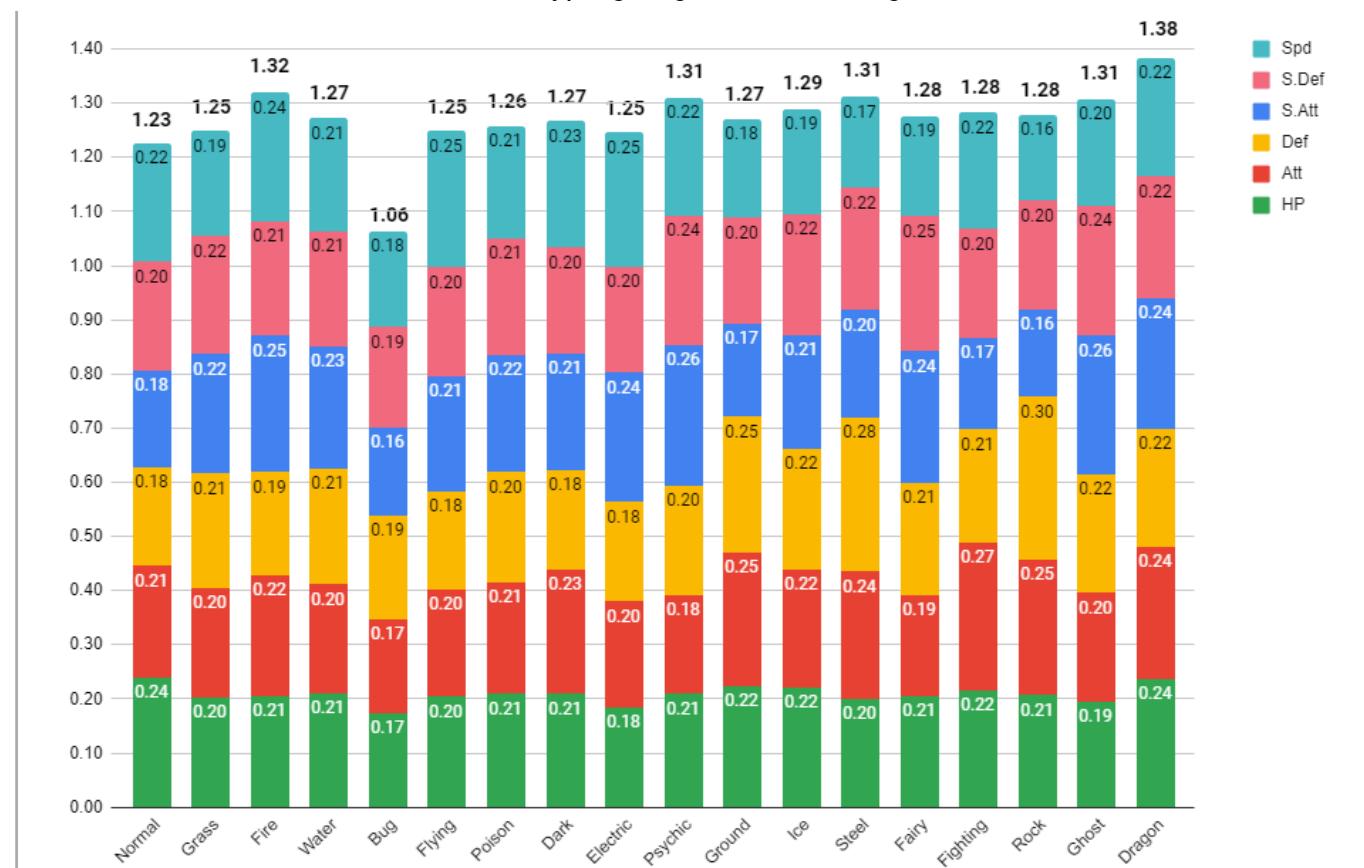


To answer the previous questions, the **Dragon** type has very **high stats** compared to other Types, making them powerful Pokémon that are rare, evolve slowly and are found in the end-game.

However, the **Ice Type** doesn't have high stats to compensate as the Dragon Type, and on top of that the **Flying Type** shows **unusually high stats** for a Type that is encountered in the Early Game. This is caused by a disproportion of Evolution States for these Types: the **Flying Type**, for example, has many Pokémon that don't evolve, which are mostly **Legendary Pokémon** that have higher stats by default - this is shown in the Chart below.



To balance this out, the **same data was weighted** with the Average Stat by Evolution State, as well as the Distribution of Evolution States for each Type, giving us the following Chart:



This weighted Chart is possibly the most **accurate** representation of **Pokémon Stats**, and it shows a surprising **balance between each Type**, with Dragon Types confirming themselves as the mightiest, Bug types as the weakest, Ice being slightly on top of the competition and **Flying** being more aligned with other **Early-Game Types**.

Considerations

Stats are the final piece of information that determines how Pokémon **Types are Tuned and Designed**. Stats are one of the **most important** elements when Designing Pokémon of each Type because they are going to dictate how the Pokémons are **perceived by Players**.

Final Considerations on Analyzed Data

Designing a Pokémon Type comes with the main **Constraint of “Intuitivity”**: this means that the **Type Relationships need to be logical** (water puts out fire) based on **real-life / outside knowledge** and that Pokémon of each type should follow the **Player’s expectations**.

On top of that, the **Pokémon stats should be well balanced** (a **6.8% of divergence** when considering the weighted stats, from the lower to the higher and excluding Bug and Dragon Types).

Finally, each Pokémon Type should convey a **different mood** that should appeal to different **types of Players** and represent a different **“archetype”**.

When Designing a Pokémon-like Game, Designers should start by Designing the **Game Elements** that need to follow the **Intuitivity Constraint**, and use other Elements to balance the game:

1. **Type Relationship**: has to follow the Intuitivity Constraint almost entirely; more freedom is allowed with types that are “abstract” like the Dark or Dragon types, but these types should be used sparingly not to go against the Intuitivity Constraint;
2. **Average Stats**: has to mostly follow the Intuitivity Constraint, however Designers have some level of freedom. It’s important to note that the Average Stats should create “Archetypes” that each Type fits in, such as strong but frail, resistant and slow, ...;
3. **Evolution Methods and Growth**: almost entirely up to the Designers, however some elements should reflect Player’s Expectations, like Grass Types characterized by their growth, like plants;
4. **Distribution and encounter moment**: entirely up to the Designers, the main way a Designer can make sure a Type is balanced - it’s important to note that it’s ok to have more powerful Types that are encountered later in the game and are rarer, so Designers shouldn’t aim to have perfectly balanced Stats and Type Relationships.

Individual Type Analysis

I will now analyze each type based on what they are supposed to convey based on the Player expectations, and how the in-game stats are used to convey that mood.

Persona Design

I will assign one of **3 different Personae** to each Type, to understand what audience it is aimed at.

Name: Ash	
They love fighting , but most importantly winning , and winning quickly. They want the most powerful Pokémon and to always be better than their opponent.	
Likes	Dislikes
<ul style="list-style-type: none">• Pokémon with High Stats, especially if Offensive ones• Types with many offensive advantages• Rare Pokémon• Training their Pokémon a lot	<ul style="list-style-type: none">• Status or setup moves• Slow fights that take too long to win
Self Determination Theory	Bartle's Taxonomy Player type
Mastery	Achiever / Killer
Name: Misty	
They love the collecting elements of Pokémon, to discover new ones and see their Pokémon evolve. When they fight, they want to be in control , act before their opponent and control the flow of the fight.	
Likes	Dislikes
<ul style="list-style-type: none">• To catch Pokémon• Pokémon with many evolutions• Pokémon that evolve quickly• Being quick and in control of the fight• Types with few weaknesses	<ul style="list-style-type: none">• Not being able to act• Having to change strategy before it comes to completion
Self Determination Theory	Bartle's Taxonomy Player type
Autonomy	Explorer / Achiever
Name: Brock	
They love their Pokémon and don't want to see them go KO . In a fight, they want to win with the fewest casualties possible.	
Likes	Dislikes
<ul style="list-style-type: none">• Bulky Pokémon• Types with many resistances• To tank many hits	<ul style="list-style-type: none">• Lose a Pokémon
Self Determination Theory	Bartle's Taxonomy Player type
Relatedness	Socializer / Explorer

Types analysis Recap

This is a **quick recap** of each Type, their appeal and the Archetype they represent.

For detailed information, you can jump straight to each Type Analysis.

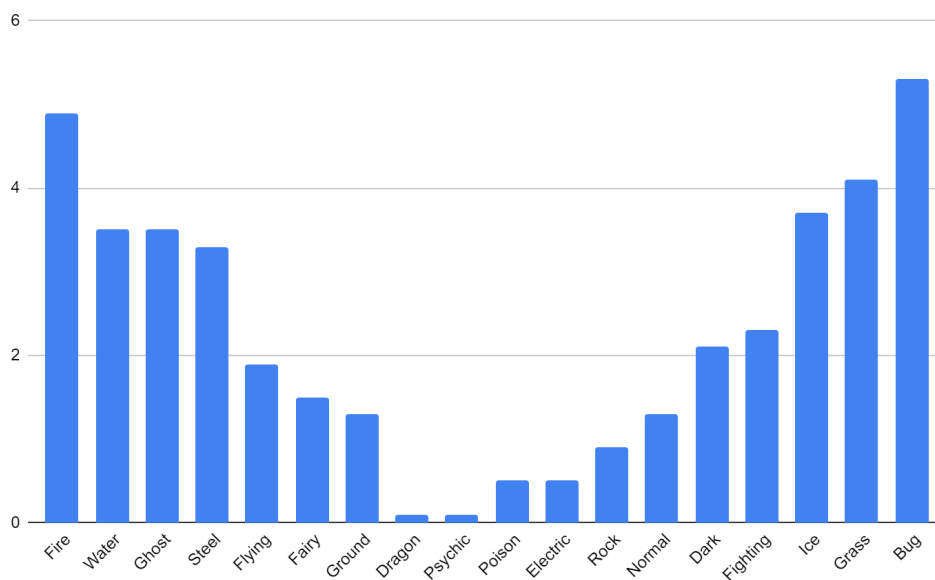
Type	Persona Appeal (main motivation)		Archetype
<u>Normal</u>	Misty (Autonomy)		Jack of all trades
<u>Grass</u>	Misty (Autonomy)		Support
<u>Fire</u>	Ash (Mastery)		DPS (Focus on special, low HP)
<u>Water</u>	Brock (Relatedness)		Defensive
<u>Bug</u>	Misty (Autonomy)		Early Game (" Jagen ")
<u>Flying</u>	Misty (Autonomy)		Rogue (very fast, low damage)
<u>Poison</u>	Misty (Autonomy)	Brock (Relatedness)	Annoyer
<u>Dark</u>	Ash (Mastery)		DPS (Focus on physical, average HP)
<u>Electric</u>	Ash (Mastery)	Misty (Autonomy)	Assassin (quick, squishy and high Damage)
<u>Psychic</u>	Ash (Mastery)		Mage (high special attack and defense)
<u>Ground</u>	Brock (Relatedness)	Ash (Mastery)	DPS (Physical resistance and damage)
<u>Ice</u>	Brock (Relatedness)		Protector (high defenses and HP)
<u>Steel</u>	Brock (Relatedness)		Knight (high Defenses and DPS)
<u>Fairy</u>	Brock (Relatedness)		Cleric (high special defense with good attack)
<u>Fighting</u>	Ash (Mastery)		Berserker (high attack, HP and low defenses)
<u>Rock</u>	Ash (Mastery)		DPS (Physical resistance and damage)
<u>Ghost</u>	Brock (Relatedness)		DPS (Special with high defense)
<u>Dragon</u>	Ash (Mastery)		All rounder with high stats, "overpowered"

Types Leaderboards

Type	Distribution	Rel. Atk.	Rel. Def.	Rel. Overall	Stats (w)	Average
Fire	6	7	4	4	2	4.6
Water	1	3	7	9	10	6
Ghost	15	5	3	2	5	6
Steel	14	12	1	1	3	6.2
Flying	5	4	8	6	15	7.6
Fairy	16	6	6	3	9	8
Ground	11	1	11	7	11	8.2
Dragon	17	9	10	10	1	9.4
Psychic	4	11	15	14	4	9.6
Poison	10	16	2	9	13	10
Electric	8	13	5	8	16	10
Rock	12	2	17	13	8	10.4
Normal	2	14	9	12	17	10.8
Dark	13	10	12	11	12	11.6
Fighting	9	15	13	15	7	11.8
Ice	18	8	18	16	6	13.2
Grass	3	17	16	18	14	13.6
Bug	7	18	14	17	18	14.8

This table shows how each type is placed compared to the other 17 types.

This chart below shows a kind of **normal distribution** slightly **skewed** on the **right, weaker** side.



Normal

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
194 (2/18)	70	15	63	40	6	Early
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
0.5 (14/18)	9 (9/18)	4.75 (12/18)	25.83	10	10	4
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	VEL
404.19	77.49	73.89	60.88	57.56	65.16	69.21
(17/18)	(2/18)	(11/18)	(18/18)	(14/18)	(16/18)	(8/18)
1.23	0.24	0.21	0.18	0.18	0.20	0.22
(17/18)	(1/18)	(9/18)	(17/18)	(14/18)	(11/18)	(6/18)

Player Expectations

Perceived as “basic”, **simple** and somewhat weak.

Design Intent

An **accessible** and **simple** type that can easily fit in any team composition to give a **neutral** answer to many obstacles. Should be especially useful to **inexperienced** Players

Delivery

- **Type relationships:** The Normal type has neutral resistances to most Types. This means that the type is an average type and this allows it to fit in any team composition.
- **Evolutions:** Normal Types evolve quite early and many of them have 2 evolution forms, meaning that they will quickly reach their full potential and be a good ally to new Players. Many Normal Pokémon have a Fast Exp Curve too.
- **Avg. Stats:** Highest **HP** in the game, ideal to **inexperienced** Players since they will be able to tank some hits despite the poor overall stats. The slightly above average **Speed** helps new Players to understand which types are fast and which are slow.

Tuning

Since the Normal type gets accessed in the early game, to compensate for the good defenses and the early evolutions all the stats besides HP are very low, making it one of the worst types. To further compensate for this, there are many Normal Types in the game.

Persona Type appeal and Archetype

Appeals to **Misty** types, thanks to their versatility, decent speed, quick evolution and Distribution. Represent the “**Jack of all Trades**”, average in all regards and that could fit any team.

Grass

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
159 (3/18)	56	24	62	16	1	Mid
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
-4 (17/18)	1.5 (16/18)	-1.25(18/18)	25.13	2	22	2
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	SPD
411.19	65.36	72.97	71.48	70.43	70.13	60.82
(15/18)	(16/18)	(13/18)	(10/18)	(12/18)	(8/18)	(13/18)
1.25	0.20	0.20	0.21	0.22	0.22	0.19
(14/18)	(14/18)	(11/18)	(8/18)	(8/18)	(7/18)	(12/18)

Player Expectations

Grass feels like a “**thriving**”, a fast **growing** type like the untainted nature, frail but tenacious.

Design Intent

One of the 3 **starting types** meant to appeal to Misty types; since it’s one of the starting types, its relationships need to be especially intuitive and precise for new Players.

Delivery

- **Type relationships:** The Grass type has many **weaknesses** because of the especially constraining relationships needs. This makes it the **worst Type** in the game.
- **Evolutions:** Grass types have many evolutions and **evolve quickly** to deliver on the expectations
- **Avg. Stats:** Mediocre stats all around because it’s an average option between the offensive Fire type and defensive Water type.

Tuning

The unfortunate type relationships are not compensated by the mediocre stats, to make up for this the Grass type **evolves** many times and quickly - however, to further compensate its many weaknesses, it often gets paired with the **Poison type**. They also get access to **healing** moves and **status** moves. On top of that, many mandatory **challenges** in the early game are **weak** to the Grass type.

Persona Type appeal and Archetype

Appeals to **Misty** types because of their fast growth and the access to healing and status moves. Represent a “**Support**” Archetype, because of their poor stats but various utilities.

Fire

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
109 (6/18)	36	18	37	16	2	Mid
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
5 (7/18)	13.5 (4/18)	9.25 (4/18)	28.43	0	10	2
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	SPD
434.97	66.77	80.02	64.04	81.23	68.40	74.51
(11/18)	(13/18)	(8/18)	(17/18)	(5/18)	(11/18)	(4/18)
1.32	0.21	0.22	0.19	0.25	0.21	0.24
(2/18)	(11/18)	(7/18)	(14/18)	(3/18)	(10/18)	(3/18)

Player Expectations

Powerful and **devastating**, capable of destroying everything in its path, and **offensive** focused type.

Design Intent

One of the 3 **starting types** meant to appeal to Ash types; since it's one of the starting types, its relationships need to be especially intuitive and precise for new Players.

Delivery

- **Type relationships:** Many **super effectiveness**, paired with many lucky resistances due to the typing relationship having clarity over gameplay as a constraint.
- **Evolutions:** **Late-ish** evolution, especially if compared to the Grass type; many Pokémon evolve 3 times, meaning they take longer to reach their full potential. They also have many Pokémon with **Slow Experience Curves** and a majority of **Medium Slow** ones.
- **Avg. Stats:** Great Special offensive stat and Speed with poor defenses, offensive focused

Tuning

Fire types are the **best** Pokémon Type among the **starters** and one of the best all around types in the game - this is compensated by how **rare** they are and the slower growth compared to Grass type. Also, many mandatory early game **challenges** have an **advantage** over the Fire type.

Persona Type appeal and Archetype

Appeals to **Ash** types because of their focus on offense.

Represents a **DPS**-focused Archetype, with poor defenses and HP but high attack and decent speed.

Water

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
214 (1/18)	83	22	78	30	1	Mid
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
6 (3/18)	12 (7/18)	9 (5/18)	28.09	0	9	9
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	SPD
416.91	67.51	72.30	72.14	71.15	67.76	65.45
(14/18)	(12/18)	(15/18)	(9/18)	(10/18)	(12/18)	(9/18)
1.27	0.21	0.20	0.21	0.23	0.21	0.21
(10/18)	(6/18)	(13/18)	(7/18)	(7/18)	(9/18)	(9/18)

Player Expectations

Water should feel **big**, powerful, and **unmovable** like a deep ocean.

Design Intent

One of the 3 **starting types** meant to appeal to Brock types; since it's one of the starting types, its relationships need to be especially intuitive and precise for new Players.

Delivery

- **Type relationships:** Many **resistances** to appeal to the Brock types and deliver the bulkiness.
- **Evolutions:** Late-ish evolution, especially if compared to the Grass type.
- **Avg. Stats:** Good **defensive** stats, in particular **HP** and **Defense**, but not extremely high.

Tuning

Water Type is **weaker** than Fire both in Types Relationships and Stats; to make up for this, it's the **most common type**, granting players many **options**.

Persona Type appeal

Appeals to **Brock** type Players because of their focus on defense.

Represents a **Defensive** Archetype, with decent HP and defenses, especially thanks to the good Type Relationships.

Bug

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
106 (7/18)	42	13	39	12	0	Early
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
-4 (18/18)	6 (14/18)	1 (17/18)	19.04	2	2	4
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	SPD
346.76	55.25	62.02	64.45	51.38	58.64	55.02
(18/18)	(18/18)	(18/18)	(16/18)	(18/18)	(18/18)	(17/18)
1.06	0.17	0.17	0.19	0.16	0.19	0.18
(18/18)	(18/18)	(18/18)	(13/18)	(17/18)	(18/18)	(16/18)

Player Expectations

The Bug type should feel **frail** and **weak**, as bugs are compared to other animals - their strength comes in their ability to **adapt** and in their numbers.

Design Intent

A Pokémon Type that is accessible **early** on in the game and that **evolves** very **quickly** to show off how evolution works and give Players a strong-ish option in the early game.

Delivery

- **Type relationships:** Overall one of the **worst** types, with the most Types resisting it and average weaknesses and super effectiveness.
- **Evolutions:** Extremely **quick evolutions** that make them reach their full potential before any other Pokémon type of the game. The vast majority of Bug Types have a Medium Fast experience curve
- **Avg. Stats:** **Lowest** stats of the game all around, with a somewhat mediocre Defense.

Tuning

Bug Types are the **worst** Pokémon in the game, but they make up for this with their extremely **quick growth**, which allows them to reach their full potential in the early game.

Persona Type appeal and Archetype

Appeals to **Misty** Types thanks to their quick growth and access to status moves and a strong healing move.

They represent an Archetype which I call "**Jagen**", a term taken from Fire Emblem games, representing a character that is very good in the early game but tends to fall behind later on.

Flying

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
121 (5/18)	30	11	40	39	1	Early
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
6 (4/18)	9.5 (8/18)	7.75 (6/18)	30.23	1	5	1
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	SPD
443.80	70.54	76.95	65.89	74.99	70.30	85.13
(6/18)	(7/18)	(9/18)	(13/18)	(7/18)	(7/18)	(1/18)
1.25	0.20	0.20	0.18	0.21	0.20	0.25
(15/18)	(13/18)	(14/18)	(18/18)	(11/18)	(14/18)	(1/18)

Player Expectations

Flying type should feel **quick** but **frail**, like real life birds.

Design Intent

Provide quick Pokémon for the **early** game, to allow Players to have a **reliable** Pokémon that will be faster than most opponents.

Delivery

- **Type relationships:** Overall **average** type relationships, is a good check to **Fighting** types being the only type advantage against the other early game type (Normal type).
- **Evolutions:** Average evolution level with **many evolutions**, meaning that they will take a long time to reach their full potential and will have to be taken in the late game.
- **Avg. Stats:** Highest **speed** stat in the game, with lower stats in other departments, especially defense to convey how frail they are. Particularly interesting is that non-weighted stats are way higher because of the huge amount of Legendary Flying type Pokémon.

Tuning

The awesome **speed** is **compensated** by overall **low stats**, especially defensive ones. However, the average type relationships makes them a slightly lower than average Pokémon type, perfect for the early Game.

Persona Type appeal and Archetype

Appeals to **Misty** Types thanks to their **speed**, providing control in battle, and their many evolutions. Represents a **Rogue** Archetype that is guaranteed to act before their opponents but won't deal as much damage.

Poison

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
94 (10/18)	36	12	39	5	2	Early
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
-1.5 (16/18)	14.5 (2/18)	6.5 (9/18)	27.91	2	6	1
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	SPD
404.54	66.34	72.39	66.89	67.59	67.46	63.87
(16/18)	(14/18)	(14/18)	(12/18)	(13/18)	(13/18)	(12/18)
1.26	0.21	0.21	0.20	0.22	0.21	0.21
(13/18)	(9/18)	(10/18)	(11/18)	(9/18)	(8/18)	(10/18)

Player Expectations

Poison feels **annoying** and **relentless**, slowly chipping away at the opponent without going anywhere.

Design Intent

A Pokémon Type based on **annoyance**, damaging over time moves and essentially “entering” the fight and staying there as the opponent gets weaker and weaker.

Delivery

- **Type relationships:** Many resistances and **few weaknesses**, with somewhat poor offensive capabilities, to convey their ability to stay in battle as the opponent slowly dies out.
- **Evolutions:** **Quick** evolutions help to make them more appealing to the Misty type. Could also be a by-product of being often paired with the **Grass** Type.
- **Avg. Stats:** **Average** stats all around, with slightly higher special and HP, to further make them bulky Pokémon.

Tuning

The **great Type relationships**, as well as the special immunity to the Poison condition are **compensated** by overall **average** Stats and low Distribution, resulting in fewer options than other Types.

Persona Type appeal and Archetype

Appeals to **Misty** Types, thanks to their quick growth compensating for the low speed, their **few weaknesses** allowing them to stay in fight against many opponents and access to **status** moves.

The bulkier Poison types could also appeal to **Brock** types.

Represents an **Annoyer** Archetype, focused on disrupting the opponent’s strategy and dealing damage slowly.

Dark

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
81 (13/18)	26	5	38	12	0	Mid
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
4.5 (10/18)	7 (12/18)	5.75 (11/18)	33.26	4	2	0
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	SPD
434.99	70.49	86.28	64.79	71.89	65.43	76.10
(10/18)	(8/18)	(6/18)	(15/18)	(9/18)	(15/18)	(3/18)
1.27	0.21	0.23	0.18	0.21	0.20	0.23
(12/18)	(7/18)	(6/18)	(15/18)	(10/18)	(17/18)	(4/18)

Player Expectations

Dark types are perceived as **menacing** and somewhat **mischievous**, as their Japanese name implies (literally translated to “**Evil**” Type).

Design Intent

The Dark type was introduced in the second Gen to **Balance** the **Psychic** and **Ghost** types. It’s supposed to be a physically **offensive** type with good **speed** which was somewhat **missing** from the First Gen.

Delivery

- **Type relationships:** Somewhat weak relationships, but **focused** on **good types**, providing an immunity and a resistance to 2 of the best types of the game and a super effectiveness against them specifically.
- **Evolutions:** **Slow-ish** evolutions resulting in a Pokémon type that needs to be trained a lot to reach its full potential.
- **Avg. Stats:** Focus on **physical offense** and high **speed** with poor defenses that deliver the idea of an offense-focused type

Tuning

The **poor** types' **relationships** are compensated by being **against** specifically **good types**, and the good stats are compensated by the **slow growth** and the few options in the game.

Persona Type appeal and Archetype

Appeals to **Ash** Types thanks to their high attack power and speed, allowing them to sweep opponents. They represent a **DPS** Archetype focused on **Physical Damage**, with worse defenses than Fire and better Speed, with special Type Relationships that make it ideal against Special Types.

Electric

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
102 (8/18)	22	11	29	35	5	Mid
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
1 (13/18)	13 (5/18)	7 (8/18)	27.09	2	11	3
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	SPD
436.38	63.42	73.69	65.12	82.85	68.60	82.69
(8/18)	(17/18)	(12/18)	(14/18)	(4/18)	(9/18)	(2/18)
1.25	0.18	0.20	0.18	0.24	0.20	0.25
(16/18)	(17/18)	(15/18)	(16/18)	(6/18)	(15/18)	(2/18)

Player Expectations

The electric type should feel **fast** and **devastating** like lighting.

Design Intent

A **quick** and powerful **Special** focused **offensive** type, with poor defenses.

Delivery

- **Type relationships:** Extremely **good defensive** relationships thanks to only one weakness with **poor offensive** relationships.
- **Evolutions:** **Quick** evolutions with many 3 forms evolutions and no-evolutions, resulting in Pokémon that can either evolve quickly or already be at their top.
- **Avg. Stats:** Focus on **speed** and **special** offense, to deliver on the “lighting” feeling.

Tuning

The **high** offensive **stats** are **compensated** by the **poor defenses**. However, the type relationships are inverted, with few weaknesses and few offensive options and many resistances, plus one immunity. This makes the Electric type somewhat **balanced**, reflected by their average presence in the games too.

Persona Type appeal and Archetype

Appeals to the **Misty** Types thanks to the **few weaknesses**, high speed and many paralysis moves.

The more powerful electric types also Appeal to the **Ash** types.

They represent the **Assassin** Archetype, a powerful and quick character but very frail.

Psychic

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
154 (4/18)	35	14	51	48	6	Mid
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
3.5 (11/18)	3.5 (15/18)	3.5 (14/18)	32.41	4	8	3
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	SPD
460.16	72.33	68.87	72.21	90.29	83.86	72.61
(3/18)	(5/18)	(16/18)	(8/18)	(1/18)	(2/18)	(6/18)
1.31	0.21	0.18	0.20	0.26	0.24	0.22
(4/18)	(8/18)	(17/18)	(12/18)	(1/18)	(3/18)	(7/18)

Player Expectations

They feel like the absolute **masters** of anything **special**-related, both offensively and defensively.

Design Intent

A Pokémon type with both **good offense** and **defense** in the **special** department and that feels powerful, rare and unique.

Delivery

- **Type relationships:** Perfectly **balanced** types **relationships**, not excelling in neither offense nor defense while being somewhat weaker.
- **Evolutions:** **High-ish evolution** level, and many no-evolution lines.
- **Avg. Stats:** Best **Special Attack** in the game and very good **Special Defense**, with decent HP and Speed and low defense and physical attack.

Tuning

The very good **special stats** and decent stats all around are partially **compensated** by the not-so-great types **relationships**. The Psychic Type is still very good, especially considering their high numbers and many no-evolution Pokémon. This makes the Psychic type **one** of the **best** in the game.

Something to note is that Psychic Type in the **First** or **Mid** evolution have notably **less HP** than average.

Persona Type appeal and Archetype

Appeals to **Ash** Types thanks to their great **stats**.

The **bulky** Psychic types appeal to **Brock** types too.

They represent the **Mage** Archetype, a character focused on **Special** (magic) damage and resistance.

Ground

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
91 (11/18)	35	9	40	7	0	Mid
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
8 (1/18)	7 (11/18)	7.5 (7/18)	32.15	0	4	3
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	SPD
420.04	72.04	89.15	84.48	54.71	62.39	57.26
(13/18)	(6/18)	(5/18)	(3/18)	(16/18)	(17/18)	(16/18)
1.27	0.22	0.25	0.25	0.17	0.20	0.18
(11/18)	(3/18)	(3/18)	(3/18)	(15/18)	(16/18)	(15/18)

Player Expectations

They feel **unmovable** and **powerful**, massive as the Earth and destructive like an **earthquake**.

Design Intent

They provide a **powerful** and **bulky physical** option, essentially the Psychic type of physical damage with particularly high resistance but very slow.

Delivery

- **Type relationships:** Best **offensive typing** relationships, with some good resistances too
- **Evolutions:** **High** evolution level, with a good amount of 3 forms evolution lines
- **Avg. Stats:** Very good HP, Attack and Defense with poor stats in all other departments

Tuning

The Ground type is a very good and resistant type that provides great offense and defense. It has a common weakness with the Water type but it's a great check against Electric types, making this one of the **more powerful types**. This is countered by the somewhat **low Distribution** and high evolution level.

Persona Type appeal and Archetype

Appeals to **Brock** types thanks to their high HP, defense and awesome resistances.

The more offensive-oriented Ground types can appeal to **Ash** types as well.

They represent a **DPS** Archetype with high **physical defense**, but poor **special defense**.

Ice

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
72 (18/18)	19	7	31	22	1	Late / Extra
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
5 (8/18)	-2.5 (18/18)	1.25 (16/18)	38.39	1	11	0
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	SPD
545.97	76.06	83.81	79.95	72.87	77.43	64.84
(4/18)	(3/18)	(7/18)	(4/18)	(8/18)	(6/18)	(10/18)
1.29	0.22	0.22	0.22	0.21	0.22	0.19
(6/18)	(4/18)	(8/18)	(4/18)	(12/18)	(6/18)	(13/18)

Player Expectations

The Ice Type should feel **big** and capable of **resisting** anything, like an **iceberg**.

Design Intent

A type that was supposed to **counter Dragons** before the introduction of the Fairy type. As such, it has **similar properties** to the Dragon type (high stats and poor types relationships) while being super effective against it. This was **never delivered** properly because of the very poor resistances.

Delivery

- **Type relationships:** **Worst type relationships** defensively, fails at delivering the Ice type mood because of this.
- **Evolutions:** Very **high** evolution levels to mimic the Dragon Types.
- **Avg. Stats:** Very **high HP** and **Defenses** to deliver the “resisting” mood, with slow speed.

Tuning

The very **good stats** are unfortunately taken back by the **poor type resistances**, resulting in what is considered one of the worst types in the game. This is probably mostly caused by the constraint of **“intuitivity”**. They were supposed to be a counter to Dragon types, something that was further enhanced by having many Dragon types have a x4 weakness against it.

Persona Type appeal and Archetype

Should appeal to **Brock** types thanks to their defensive stats however the many weaknesses and few resistances don’t make them ideal for any Player type.

They represent a fully **Defensive** Archetype with **better stats** than **Water** but **worst Type** relationships.

Steel

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
78 (14/18)	18	7	31	22	0	Late / Extra
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
3.5 (12/18)	27 (1/18)	15.25 (1/18)	36.10	0	5	1
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	SPD
475.95	70.08	93.04	105.08	70.47	79.73	57.56
(2/18)	(9/18)	(3/18)	(1/18)	(11/18)	(4/18)	(15/18)
1.31	0.20	0.24	0.28	0.20	0.22	0.17
(3/18)	(15/18)	(5/18)	(2/18)	(13/18)	(4/18)	(17/18)

Player Expectations

Steel types feel like **powerful** and **unmovable** power houses, like big **tanks**.

Design Intent

Introduced in the **second Gen**, it introduced a new and very **powerful** type that was supposed to be another **End-Game** option for players.

Delivery

- **Type relationships:** Extremely **good** type **relationships**, especially in defense. The **best type** in the game for the Type relationships.
- **Evolutions:** Extremely high **evolution levels**, and many Pokémon gain this type at their final evolution stage, further delivering the feeling of a **powerful type** that needs to get **unlocked** in the end game.
- **Avg. Stats:** Very good **Attack**, great **defenses** but poor **Speed** and **HP** to compensate.

Tuning

The Steel Type is **better than most** types because it's meant to be one of the best Types of the game. It's gained at **high levels** by other, often weaker Pokémon and it's very **rare**. Also, the **low HP** are needed to **compensate** for the awesome type relationships.

Persona Type appeal and Archetype

Appeals to **Brock** Types because of the awesome Defensive properties.

Represents an **all rounded Defensive** Archetype compensated by poor HP, feels like an **update** to the Rock and Ground Types.

Fairy

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
77 (16/18)	19	5	28	18	7	Mid
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
6 (6/18)	13 (6/18)	9.5 (3/18)	24.55	8	7	4
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	SPD
429.05	69.20	66.42	69.40	80.36	84.67	59.00
(12/18)	(10/18)	(17/18)	(11/18)	(6/18)	(1/18)	(14/18)
1.28	0.21	0.19	0.21	0.24	0.25	0.19
(9/18)	(12/18)	(16/18)	(10/18)	(4/18)	(1/18)	(14/18)

Player Expectations

Fairy types should feel **annoying**, **sneaky** and **deceiving**.

Design Intent

Latest type introduced in the game, acting like a **real counter** to **Dragon** types. Also provides a Type focused on **Special Defense**.

Delivery

- **Type relationships:** Very **good** type **relationships**, both offensively and defensively.
- **Evolutions:** They **evolve** very **quickly** but evolve many times and they sometimes gain the Fairy type at final stages of evolution.
- **Avg. Stats:** Best **Special Defense**, as well as high **Special Attack**. They deliver on their deceiving nature by providing a “**cute but deadly**” idea, with their stats not reflecting their look.

Tuning

The Fairy type is a great type that **balanced** the powerful **Dragons** who didn't really have a good counter before. They have many **friendship-based** evolution, making them somewhat **harder** to **evolve** due to their **not great HP** too.

Persona Type appeal and Archetype

Appeals to **Brock** types thanks to their awesome **defenses**, on top of that the **conservative** play style of Brock types also suits well the **Friendship** evolution method.

They represent a “**cleric**” Archetype, with very good Special Defense and some Special Offense property.

Fighting

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
97 (9/18)	25	8	40	20	4	Mid
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
0.5 (15/18)	6 (13/18)	3.25 (15/18)	29.10	2	3	4
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	SPD
443.28	73.53	101.37	72.30	57.41	58.55	70.13
(7/18)	(4/18)	(1/18)	(7/18)	(15/18)	(10/18)	(7/18)
1.28	0.22	0.27	0.21	0.17	0.20	0.22
(7/18)	(5/18)	(1/18)	(9/18)	(16/18)	(13/18)	(8/18)

Player Expectations

The Fighting type should feel like the **absolute master** of **Offensiveness**.

Design Intent

A **bulky-ish** type focused on **offensive** with many types **weak** to it but at the same time many types **resisting** it, making it a **specific** use-case Pokémon type.

Delivery

- **Type relationships:** Many **super effectiveness** but many types **resisting** it, creating a **balance**.
- **Evolutions:** **Average** evolution level but they get to their **full potential** quickly.
- **Avg. Stats:** Best **Attack**, to convey their awesome **strengths**. On top of that, they are somewhat bulky with **decent HP**. Some Fighting types **trade bulkiness** with **speed**.

Tuning

The Fighting type has **many use cases** but also many situations where it's not ideal. The **weakness** to **Flying** type is especially bad since it's often **outspeeded** by Flying types.

It is also the **only** real **answer** to **Normal** types.

Persona Type appeal and Archetype

Appeals to **Ash** Types because of their awesome offensive skills.

They represent the **Berserker** Archetype, focused on Physical offense, poor defenses that are compensated by high HP levels.

Rock

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
90 (12/18)	28	8	35	17	2	Mid
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
7.5 (2/18)	1.5 (17/18)	4.5 (13/18)	33.29	0	2	6
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	SPD
436.10	68.74	92.43	103.36	53.72	66.83	51.02
(9/18)	(11/18)	(4/18)	(2/18)	(17/18)	(14/18)	(18/18)
1.28	0.21	0.25	0.30	0.16	0.20	0.16
(8/18)	(10/18)	(2/18)	(1/18)	(18/18)	(12/18)	(18/18)

Player Expectations

The Rock type should feel **resistant** and **hard**, like something that could hurt if it hit you.

Design Intent

The Rock type is **probably** one of the **early choices** made in the first gen of Pokémon that had to be carried over in the future generations since it's very **similar** to the **Ground** type and can't seem to get a **real identity**. Right now, the **Rock** type feels like a more **offensive** oriented **Ground** type, with worse type **relationships** but better stats, a **high risk / high reward** type of Pokémon.

Delivery

- **Type relationships:** Very good **offensive** relationships like the **Ground** type, with less super effectiveness but no type immune to it; very **bad** type **resistances**.
- **Evolutions:** **High evolution** level, with a good amount of 3 forms evolution lines but even more single-type evolutions
- **Avg. Stats:** **Best defense** and **mediocre special** defense with **poor HP** to convey the frailty.

Tuning

The **more offensive dedication** of the Rock type compared to the Ground type is shown by their **Low HP** but higher defenses with poor Type Resistances, conveying the High Risk / High Reward.

Persona Type appeal and Archetype

Appeals to **Ash** Types thanks to their offensive properties.

They represent a **DPS** Archetype with high **defense** similar to the **Ground** type, with slightly better Special Defense and worse HP. Essentially, a more DPS-dedicated Ground type.

Ghost

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
78 (15/18)	24	6	33	15	0	Late / Extra
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
6 (5/18)	14 (3/18)	10 (2/18)	38.03	0	7	5
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	SPD
451.30	65.51	76.37	77.62	86.07	81.23	64.50
(5/18)	(15/18)	(10/18)	(6/18)	(2/18)	(3/18)	(11/18)
1.31	0.19	0.20	0.22	0.26	0.24	0.20
(5/18)	(16/18)	(12/18)	(5/18)	(2/18)	(2/18)	(11/18)

Player Expectations

Ghost types should feel **ethereal**, **untouchable** and **mysterious**.

Design Intent

The Ghost type is meant to be a **great type** Players will encounter **later** in the **game** as a **reward**. It's also somewhat of the opposite to the Normal type, with clear and strong types relationships and high stats.

Delivery

- **Type relationships:** They have the **most immunities** of any type, some resistances and few weaknesses, to convey the feeling of being untouchable.
- **Evolutions:** They evolve at **extremely high levels** and often require items or to be traded.
- **Avg. Stats:** Awesome defenses compensated by poor HP, to convey their etherealness. They also have awesome offensive capabilities, to make them even better.

Tuning

The Ghost type is one of the **best types** of the game thanks to the **awesome** types **relationships** and **stats**. They are often found in **secret** areas or **later** in the game; on top of that, Gastly is the Ghost type that is often found, which requires to be traded to unlock its full potential as Gengar, making it especially hard to use.

Persona Type appeal and Archetype

Appeals to **Brock** Types because of the awesome defensive properties.

They represent a **DPS** Archetype focused on **Special** and also good defenses.

Dragon

Distribution	Evo Type					Point in the Adventure
	First	Mid	Last	Only	Baby	
77 (17/18)	16	15	20	26	0	Late / Extra
Type Relationship			Evo Method			
Attack	Defense	Overall	Avg. Level	Friendship	Item	Trade
4.5 (9/18)	8.5 (10/18)	6.5 (10/18)	43.41	0	2	0
Avg Stats						
Overall	HP	ATK	DEF	SP ATK	SP DEF	SPD
496.37	81.92	65.47	79.94	85.90	78.83	74.30
(1/18)	(1/18)	(2/18)	(5/18)	(3/18)	(5/18)	(5/18)
1.38	0.24	0.24	0.22	0.24	0.22	0.22
(1/18)	(2/18)	(4/18)	(6/18)	(5/18)	(5/18)	(4/18)

Player Expectations

Dragon Types should feel **legendary**, unique, mythical.

Design Intent

Create a type that acts as a **small legend**, with a focus on having **awesome** stats all around, as a final **reward** that Players can unlock in the late game.

Delivery

- **Type relationships:** The Dragon type has **poor** types **relationships**, most notably being only super effective against itself and being weak to a good amount of types.
- **Evolutions:** They take the **longest time to evolve** and have many 3 forms evolutions, meaning that they will take a very long time to reach their full potential.
- **Avg. Stats: Awesome stats** all around, HP stand out but all of them are very high.

Tuning

Dragon types are supposed to be **extremely powerful** and they are, this is mostly **compensated** by the **long time** they take to evolve, their types **relationships** and **rarity**.

Persona Type appeal and Archetype

Appeals to **Ash** types because of their awesome stats.

They represent a **special “overpowered”** Archetype, a **reward** character that rewards players who got far enough to find them.

Final Take outs

Based on what was analyzed in the generic Data, it was theorized that when balancing a Pokémon Game and Designing its Types, the following **Game Elements** have to follow the “**Intuitivity**” **Constraint more than the Design needs** (*list from More Constrained to Less Constrained*):

1. Type Relationship
2. Average Stats
3. Evolution Methods and Growth
4. Distribution and encounter moment

Analysis of the **Average Weighted Stats** also showed that types should have a **divergence in their stats of around 6.8%**, from the lowest overall stats to the overall higher stats.

This is still true even when not considering Attack or Special Attack for Types that focus on the opposite.

Analyzing each Type made it clear that to have an **appealing Types roster**, the Types need to:

1. **Appeal to distinct audiences** depending on the Target Market of the Game
2. **Reflect a unique Archetype** or Gameplay Paradigm
3. **Have some level of “unblanance”**, with certain types that are clearly stronger than others

When balancing Pokémon, their **Types Relationships** are **more important** than their **Stats**, as shown by the Community’s Opinion of Ice Types despites their good stats. This means that selecting the right Types based on their **Intuitive Relationships** will go a long way in having a balanced roster.

A plausible **process to design Pokémon-like Systems** could be as follows. Note that this is a methodology that only takes into account the **Game Design**, not the **Art** or **Narrative Direction**. Also, this framework assumes that Experience curves, Movesets, Evolution bonuses are the same as Pokémon:

1. Start by listing **8 different Types**:
 - a. **3** in a **symmetrical** triangle relationship (*grass-fire-water*)
 - i. These should **appeal** to 3 different Player Types and be the “**Starters**”
 - b. **3** in an **asymmetrical** triangle relationship (*ground-flying-electric*)
 - c. **1** that is supposed to be an **average** Jack of All Trades (*normal*)
 - d. **1** that is supposed to be a **rare, overpowered** end-game reward (*dragon*)
2. Assign **relationships** to all these types following the **Intuitivity Constraint**
3. Assign **base stats** to all these Types following the **Player Expectations**
 - a. The “**normal**” type should have **average** stats
 - b. The “**dragon**” type should have **high** stats
4. **Balance** these existing Types by:
 - a. Deciding which Types will be more present in the game
 - i. The “**normal**” type should be very **common**
 - ii. The “**dragon**” type should be very **rare**
 - b. Assigning an **average** Evolution **Level** or **Experience** Curve to these Types
 - i. The “**normal**” type should grow quickly
 - ii. The “**dragon**” type should grow slowly
5. Add **more Types** to:
 - a. **Balance** the roster following the **Intuitivity Constraint** to assign Type **Relationships** OR
 - b. **Balance** the roster by making sure that different **Archetypes** have a representation OR
 - c. **Balance** Player Types **Appeal**