

# Mind over Matter: How Pokémon Made Its Metagame



**A Culture of Competition, Collaboration, and Creativity in  
the Global Community of Pokémon Battlers**

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### **An Introduction to Metagaming**

When we crack the shrink wrap, unseal the packaging, open the box, and read the rules of a game, we can only begin to envision how gameplay will evolve. Even after playing a few matches with our closest friends and enemies, we can never predict how strategies and knowledge *outside* the immediate rules will influence the flow of a game in the wider population. We can never predict how an experienced veteran will play the game, how our opponent's personal trends offer us invaluable information, and how popular strategies will rise and fall like waves on a vast ocean surface. We will define the **metagame** by this subcultural awareness of popular or potent strategies – an awareness that prompts us to prepare and play differently against humans than we would against a computer, an awareness that influences our own choice of strategy in an attempt to address the greatest perceived threats and exploit our opponent's known proclivities. While the designer's written regulations do, in large part, influence what players can and cannot do, they can never, for a truly balanced game, predict what players *will* do in the heat of battle against other highly skilled and seasoned players. As David Sirlin concludes after juxtaposing the testing capabilities of the designer against those of the audience, players enjoy infinitely more time, pairs of eyes, and minds for exploiting the game world, so the development and subsequent perfection of gameplay strategy often enters a life cycle of its own after a game's release.<sup>1</sup> This paper will explore the culture of competition that cultivates and sustains such a life cycle, tapping Nintendo's Game Boy classic *Pokémon* for insight and illustration.

**“All the world's a stage, / And all the men and women merely players.”**  
~Shakespeare's *As You Like It* (2.7.139-167)

However, in the metagame, even when the curtain falls, the play continues. Competitive gaming offers a chance for players to perform, but, in showing the world their skills and style, they

also open their game to public consumption, prediction, and preemption. The very records that preserve and showcase a player's victory also serve as game tape for opponents to review. Thus, while all *games* eventually conclude, the *metagame* persists, encompassing not only the study of opponents' strategies but also their incorporation into one's own gameplay. In this sense, the multiplayer game is never over. Whereas computers strategize and play mostly during the game clock, human players seldom shut down between matches. Furthermore, unlike computers, which might assume a perfect opponent when employing the minimax strategy, human players both enjoy and expect distinct, personalized styles of gameplay, especially in digital games that foster creation and creativity. The abundance of both human pride and time contribute to a metagame that, due to its transcendence of the magic circle, few computers can estimate or emulate.

### **The Many Forms and Faces of Metagaming**

Metagaming in its most basic form – prediction and preemption – appears in all levels of play, from family rematches and casual online gaming to professional leagues. For example, after losing several matches of Go to his older sister, young Ash might grow frustrated and alter his play to anticipate and preempt his sister's favorite moves. Similarly, professional Magic: The Gathering players stay informed about popular decks in order to construct a sideboard that can counter notoriously troublesome tactics. When competitive players simply cannot prepare for every single card in existence due to the sheer number of possibilities, they must metagame; they must prepare for what they perceive to be the greatest threats and what they consider the most popular or frequently used tactics in the current competition. In even the most casual play circles, the prevalent use of a certain card X that dominates card Y might discourage players from using card Y and lead them to using card Z, which easily dispels card X; after the desuetude of card Y becomes obvious from repeated play, users of card X might stop playing X, at which point card Y again becomes a

viable option. If card Z has no use beyond countering card X, then card Z will eventually lose popularity, at which point card X returns.<sup>2</sup>



Figure 1 - Examples of cards that are maximally effective only if you know which cards the opponent is using – only if you metagame!

Pre-arranging favorable match-ups is not limited only to cards. An NFL coaching staff maintains entire libraries of film on opposing teams in the league to study trends in play calling and situational strategy, matching players and formations to the opponent's most glaring weaknesses. However, certain types of games provoke metagaming more than others, and this study will focus on the way that interactive online technology and player creativity converge to develop and elevate the metagame in Nintendo's *Pokémon*.

Even though metagaming is present in both *Monopoly* and *Starcraft*, the global impact of such breakage in the magic circle often relies on communication technology, variability in player choices, creativity, and competitive motivation. At the highest competitive levels, metagaming becomes a game of its own, forcing players to realize, react, and respond or relinquish any hope of victory. How does this “game without the game” materialize? For video games, the gameplay rules, technology, player base, and competitive rewards all contribute to the development of the metagame. Without sufficient variability and balance in the gameplay mechanics, unique strategies and creative styles cannot flourish; if one broken move dominates the rest, then all competitive play

simply degenerates to a repeated iteration of that single move. Likewise, without proper communication between skilled players around the country or world, enthusiasts cannot disseminate their ideas, dominant or not. As David Sirlin describes in “Game Balance,” Joe Hardcore can discover a killer combo that can obliterate all competition, but, without mass media coverage or Internet connectivity, only those in Joe’s immediate community ever learn of his trademark moves.<sup>3</sup> Similarly, without player community and creativity to beget new and unforeseen tactics, the metagame will never expand beyond its initial stage – a single dominant strategy – into more sophisticated study and derivation of novel countermeasures. Finally, metagaming exerts the most influence in highly competitive leagues, where more meaningful stakes – world ranking, public visibility, or even money – drive contenders to immeasurable extremes in preparation and performance.

### **Our Case Study: Metagaming in Nintendo’s *Pokémon***

Intricate metagaming did not always accompany Nintendo’s portable role-playing game *Pokémon*; after playing newer versions of *Pokémon*, naïve reviewers often question whether or not the game has significantly evolved with each generation, often negatively citing the addition of 100 new Pokémon species as the only noteworthy update to the game. “It’s the same exact formula and scenario, and there’s nothing new, shiny, and exciting to attract your attention... It’s unoriginal and makes no attempts to add worthwhile additions to the series,” a disgruntled reviewer (I Like Evil) writes in his review of *Pokémon Diamond* on GameFAQs.com.<sup>4</sup> Similarly, Craig Harris of IGN.com slams the latest version of *Pokémon* for its lack of graphical updates: “Don’t expect to be overwhelmed with a fresh take on the series. [Nintendo] stuck to its guns and kept the DS game in line with the Game Boy Advance designs, which were, honestly, a modest upgrade to the Game Boy Color game, which, in turn, wasn’t a huge step over the game that started it all in black-and-white a decade ago.”<sup>5</sup> However, what these pundits have overlooked is that, while the one-player quest to

“catch ‘em all” and beat the Elite Four has remained static and formulaic, the multiplayer metagame has infallibly grown with each version of *Pokémon* due to (1.) improving balance in game design, (2.) technological evolution, (3.) player community growth, and (4.) increasing levels of competition. The burgeoning connectivity in *Pokémon* – both between different versions of the game *and* between trainers across the world – has made players both producers and performers, creating a metagame and cultivating a community bound as tightly in collaboration as in competition. In this sense, the game’s balance of structure and freedom (rule and choice), the technology fostering player interaction, the ever-expanding base of competitive players, and the high visibility and recognition in tournament play have coalesced to cultivate a metagame that gratifies and glorifies player creativity and personal style of play.

### Game Freak’s Balancing Act – How Game Design Affects Metagaming



Figure 2 - The four generations: Red/Blue/Yellow, Gold/Silver/Crystal, Ruby/Sapphire/Emerald, and Diamond/Pearl/Platinum

Complex metagaming depends on balance: balance between variability in player choices and well-defined structure in the gameplay engine. Only when a player can choose from a variety of viable strategies does awareness of the most threatening and popular techniques become important to success. The growth of *Pokémon*’s metagame reflects this intricate entwinement of rule and choice. In order to evaluate the importance of both structure (*rules*) and variability (*choices*) to sustaining a healthy metagame, we will trace the evolution of player tactics in competitive *Pokémon* battling to its roots in game design.

### ***Pokémon Red and Pokémon Blue: The Possibilities behind Personal Choice***

The metagame first started in *Pokémon* because the large number of species and degree of customizability made opponents – both their strategies and human proclivities – difficult to predict. When Nintendo and Game Freak, the companies behind *Pokémon*, first introduced the one-on-one battle engine in *Pokémon Red* and *Pokémon Blue*, one of the features that most excited players to compare their teams and skills was the ability to mix and match a wide array of species. With 151 Pokémon species from which to select, each of which inherently possessed one or two elemental *types* (Water, Fire, Electric, Fighting, etc.), the player could construct  $\binom{151}{6} \approx 14.8886$  billion different six-member battle teams. Furthermore, each Pokémon could learn four moves from a species-dependent subset of 165 different ones, some of which dealt damage and others of which generated status effects such as health-sapping Poison, attack-reducing Burn, or paralyzing Sleep. By limiting a team member to only *four* moves from that subset, the game forced players not only to choose Pokémon that could learn complementary moves (Charmander, for example, could learn only 40 of the 165 moves) but also to select the best *four*-move combination for each member of the team (even though Charmander could learn 40 different moves, the maximum he could bring into battle would be four). Thus, even before entering battle with other Pokémon trainers, the player could personally brand a playing style by finding an effective (or personalized) combination of six battle Pokémon and selecting a moveset of four for each of those six species.

Battle Chart	Normal	Fire	Water	Electric	Grass	Ice	Fighting	Poison	Ground	Flying	Psychic	Bug	Rock	Ghost	Dragon	Dark	Steel
Normal																	
Fire		▲	▲	●	●									▲	×		▲
Water		●			▲				●							▲	
Electric				▲	▲				×							▲	
Grass		▲	●				▲	●							▲		▲
Ice		▲	▲		●			●									▲
Fighting	●						▲	▲	▲	▲	▲	▲		×		●	
Poison				●				▲	▲					▲	▲		×
Ground		●			▲					×			▲	●			●
Flying				▲	●		●										▲
Psychic											▲					×	
Bug		▲			●			▲	▲		▲				▲		▲
Rock		●				▲		▲	▲		●						▲
Ghost	×										●			●		▲	
Dragon															●		▲
Dark																	▲
Steel		▲	▲	▲		●								●			▲

● Strong - ■ Normal - ▲ Weak - × Can't Hit

Figure 3 – Each elemental type had strengths and weaknesses, which made balancing move types essential to victory.

This personal choice was important to the metagame because players had to anticipate a wide variety of combinations. Like the collectible card game *Magic: the Gathering*, *Pokémon Red and Blue* admitted more Pokémon team permutations than any single strategy can possibly thwart; because preparation for *everything* simply was not feasible, a competitive player had to know the most potent or popular trends and devise countermeasures for those.



Figure 4 - Pokémon Red/Blue introduced the first 151 species, 60 of which saw regular competitive play.



### ***Pokémon Gold and Pokémon Silver: Breeding New Ideas***

The introduction of 100 new species, the addition of two new types (Dark and Steel), and the ability to breed new moves and traits into Pokémon in *Pokémon Gold* and *Pokémon Silver* increased both the viability and variability of new player strategies, thereby expanding the amount of prediction and preemption a player had to employ to win.

Released on Game Boy Color, the *Gold* and *Silver* versions empowered Pokémon trainers to *breed* their Pokémon in addition to catching them, driving players to find combinations of parent Pokémon that could bequeath otherwise unavailable moves to their offspring; all of sudden, Pokémon that had been previously handicapped by a poor movepool in *Red* and *Blue* could learn more potent moves that maximized their inherent strengths in *Gold* and *Silver*, opening a vast new realm of customizability. For example, Electabuzz from *Red* and *Blue* was limited to Electric and Psychic type moves, both of which relied on a strong special attack stat to execute. Now, breeding an Electabuzz with a Fighting-type parent that could learn Fighting-type attacks, a *Gold* and *Silver* trainer could hatch a child Electabuzz with higher attack stats and the strongest Fighting type attack, Cross Chop. Spurred by the variety these changes permitted, hardcore players laboriously compiled data on move inheritance through exhaustive trial and error, leading to the derivation of complicated but empowering breeding chains.

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-MACHAMP-  
-----  
Counter  
wobbuffet (Counter - Lv. 1/1/1) >> Machop  
Hitmonchan (Counter - Lv. 50/50/50) >> Machop  
Hitmontop (Counter - Lv. 31/31/31) >> Machop  
Breloom (Counter - Lv. 28/28/28) >> Cacnea >> Machop  
Shroomish (Counter - Evolve) >> Cacnea >> Machop  
Heracross (Counter - Lv. 30/30/30) >> Paras >> Cacnea >> Machop  
Slaking (Counter - Lv. 37/37/37) >> Rhyhorn >> Chikorita >> Cacnea >> Machop  
Slaking (Counter - Lv. 37/37/37) >> Nidoran-M >> Chikorita >> Cacnea >> Machop  
Slakoth (Counter - Lv. 37/37/37) >> Rhyhorn >> Chikorita >> Cacnea >> Machop  
Slakoth (Counter - Lv. 37/37/37) >> Nidoran-M >> Chikorita >> Cacnea >> Machop  
Smeargle (Counter - Lv. 1/1/1) >> Rhyhorn >> Chikorita >> Cacnea >> Machop  
Smeargle (Counter - Lv. 1/1/1) >> Nidoran-M >> Chikorita >> Cacnea >> Machop  
Vigoroth (Counter - Lv. 37/37/37) >> Rhyhorn >> Chikorita >> Cacnea >> Machop  
Vigoroth (Counter - Lv. 37/37/37) >> Nidoran-M >> Chikorita >> Cacnea >> Machop
```

Figure 5 - Example of player-derived breeding chains that lead to a baby Machop knowing the move 'Counter' upon birth.

Even though intricate cross-breeding required significant time investment, competitive players were willing to devote the hours to breeding in order to surprise opponents in battle. For example, consider Blissey, long known to be a “sponge” of special attacks like Electabuzz’s Electric moves; with extremely high HP and special defense stats, she can withstand even the strongest *special* attacks – including those of types Fire, Water, Electric, and Psychic. However, her poor *physical* defense makes her vulnerable to *physical* attack types such as Fighting and Ground. Whereas Blissey had no fear of most Electric Pokémon like Jolteon and Electabuzz before the introduction of breeding, she now had to think twice when facing Electabuzz due to the possibility of an ill-timed Cross Chop, which, being a *physical* attack rather than a *special* attack, could KO Blissey instantly. Even if the opponent’s particular Electabuzz did not carry Cross Chop, the heady trainer might still consider switching Blissey out for another Pokémon because the mere *possibility* of Electabuzz’s Cross Chop existed. By expanding the movepool of all Pokémon species, the introduction of breeding increased the amount of knowledge and awareness players had to bring into battle; certain breeding chains made their beneficiaries too much of a threat to ignore, as victory often depended on correctly predicting which killer moves each opposing Pokémon could learn and switching in a Pokémon that could withstand them.

In addition to the introduction of breeding and the expanded movepools that it admitted, a number of new Pokémon allowed trainers to adopt a more defensive-oriented approach in *Gold* and *Silver*. Instead of focusing on “sweeping” the opponent as quickly as possible (which many trainers still tried to do), players began to anticipate a wide array of attacks and devised stalwart defensive tactics that forced offensive teams to adapt. For instance, “SkarmBliss” combined the impenetrable *physical* defense and the multifariously resistive Steel-typing of Skarmory with the high *special* defense and unpredictable Normal-typing of Blissey to neutralize all attack types.



Figure 6 - (Left) Blissey and (Right) Skarmory formed one of the most feared duos of defensive Pokémon, known as SkarmBliss.

To ensure that the opponent would not simply switch Pokémon to match Skarmory or Blissey with its respective weakness, Skarmory would begin the battle by setting several layers of Spikes, a move that dealt damage to Pokémon switching into battle; by using Spikes three times at the outset of a Pokémon battle, SkarmBliss strategists could sit back and let Skarmory or Blissey absorb series of attacks without fear of its opponent switching. A complementary technique dubbed “ToxiStalling” could then claim victory, as defensive Pokémon like Blissey could use Toxic to poison the opponent and stall the battle to let the poison slowly corrode the opponent’s HP. As another example, the Tyranitar species spawned the “Toxic-Sandstorm-Spikes” defensive strategy, popular on the one hand because Tyranitar could easily defeat *Red* and *Blue*’s most prevalent Pokémon, Mewtwo, but also viable because its Sandstorm move, once activated, dealt incremental damage (like the Poison condition) to all Pokémon except Ground and Rock Pokémon; thus, built entirely of Ground and Rock Pokémon, a “TSS” team could rely on the joint decrements of Toxic, Sandstorm, and Spikes to slowly reduce the health of the opponent no matter its type.

Metagaming always involves the response to newly introduced dominant strategies, and the aftermath of SkarmBliss and TSS was no different. In response to these dominant defensive tactics, many trainers tried to capitalize on the down turns – during the opponent’s initial Spikes setup, for example – by using stat-boosting moves like Swords Dance and Agility, whose benefits could eventually be transferred to a dedicated “sweeper” – offensive juggernaut – through the stat-

transferring move, Baton Pass. Ideally, if uninterrupted during its setup, the sweeper receiving the baton would grow so strong (from Swords Dance) and fast (from Agility) that it could annihilate an entire team once it safely entered battle. Whereas the *Red* and *Blue* engine would never have allowed such stat-boosting because (a.) the booster would be quickly swept in the offensive metagame, and (b.) most recipients of the boosted stats could not learn a diverse enough set of moves to sweep an entire team; the Baton Pass concept could survive in the *Gold* and *Silver* metagame because (a.) oft-employed defensive strategies afforded their opponents time to accumulate several turns of boosting, and (b.) Pokémon that received the boosted stats from Baton Pass had sufficient move variety from breeding to dismantle any opponent. All in all, new Pokémon such as Skarmory and Tyranitar made defensive combinations much more viable in *Gold* and *Silver* competitive battling, diversifying strategies and expanding the metagame beyond basic offensive team building. Ultimately, this diversification of tactics contributed to the metagame by forcing competitive players to a heightened level of awareness, as the best way to defeat popular defensive strategies like SkarmBliss and TSS was to anticipate them and capitalize on the down turns, as stat accumulation and Baton Pass did. With these well-known defensive schemes running rampant, the most successful players either adhered to them or devised strategies that could consistently dismantle them.

### ***Pokémon Ruby and Pokémon Sapphire: The Metagame of Nature and Nurture***

The Game Boy Advance installments of *Pokémon Ruby* and *Pokémon Sapphire* introduced several new concepts that altered the strategies employed in the metagame, showcasing the intimate relationship between game structure and competitive play.

First of all, the designers of *Ruby* and *Sapphire* increased the number of Pokémon species from 251 to 386, adding a number of previously non-existent type combinations – such as Swampert’s Water/Ground typing – to the competitive scene. These new type combinations, when

placed on Pokémon with viable movepools, often forced competitive gamers to include moves to deal with specific Pokémon. For example, whereas an Electric type generally had no fear of Water Pokémon because of their weakness to electricity, the Ground-typing on Swampert rendered it, like all Ground Pokémon, immune to Electric attacks; following Swampert's introduction, Electric sweepers like Jolteon began to carry Grass attacks specifically to deal with Swampert.



Figure 7 – (Left) *Ruby/Sapphire* status screen, displaying ability and the six main stats. IVs/EVs are invisible! (Right) Swampert family.

The designers increased not only the number of species but also the movepool, demanding even more study and awareness for metagamers; additionally, each species of Pokémon had a unique ability that would automatically trigger upon entering battle. Much like the addition of new Pokémon, the ability forced trainers to reevaluate each species in light of this automatic entry effect; some, like Linoone's Pickup ability, were relatively benign, whereas others, such as Blissey's Natural Cure, dramatically empowered the carrier. With 375 refreshed and rebalanced moves to study along with the newfound ability, Pokémon players had to absorb increasingly more knowledge and data as they prepared for what was rapidly becoming an unpredictable field. As the number of possibilities multiplied beyond the scope of perfect countermeasures, a player had to understand the inner workings of the most widely used teams that could exploit his or her team's weakness; the essentiality of such knowledge of the field amounted to increased metagaming.

Ultimately it was *Ruby* and *Sapphire*'s introduction of a new statistics system based on personality, Effort Values (EVs), and Individual Values (IVs) that influenced the metagame most

prominently and enduringly. Previously, within a species, Pokémon had little variance to their base statistics: Blissey always enjoyed a predictably high special defense and estimably low physical defense, whereas Skarmory boasted great physical defense. IVs reflected genetic variations within species, while EVs quantified the amount of training a particular Pokémon invested in improving a certain statistic. Each of the six statistics – HP, physical attack, physical defense, special attack, special defense, and speed – had a corresponding EV and IV. An IV, ranging from 0 to 31, quantified how much natural ability the Pokémon possessed; determined randomly at a Pokémon's capture but inherited upon birth from parents, the IVs forced competitive gamers to breed repeatedly to purge bad IVs from the bloodline and obtain genetically ideal Pokémon. An EV, ranging from 0 to 255 per statistic but limited to a total of 510 summed across all six stats, measured the amount of training devoted to each statistic; in this way, the trainer could either compensate for a Pokémon's inherent deficiencies or fortify a natural strength to an extreme – but not both, because the game limited the total number of EVs to 510, capping the benefits of excessive training. Finally, each Pokémon was born with one of 24 different personalities, with each personality offering a 10% boost in one statistic and a 10% deficiency in another. As a result of these new complications, building a team involved more than mere species selection, move compilation, and strategy derivation; now, competitive trainers had to assign each Pokémon an EV spread – a particular distribution of the 510 EVs among the six stat categories – that fit the Pokémon's role on the team. EV spreads added another dimension to the metagame, as knowledge of the species and elemental type of a Pokémon no longer divulged the type of threat it posed; familiarization with species and their typical movesets no longer obviated further prediction of an opponent's methodology. Could this Blissey be trained in physical defense to survive and Counter my Cross Chop, or are all its EVs devoted to special defense so it can absorb all special attacks? Knowledge of commonly used EV spreads was paramount to success.

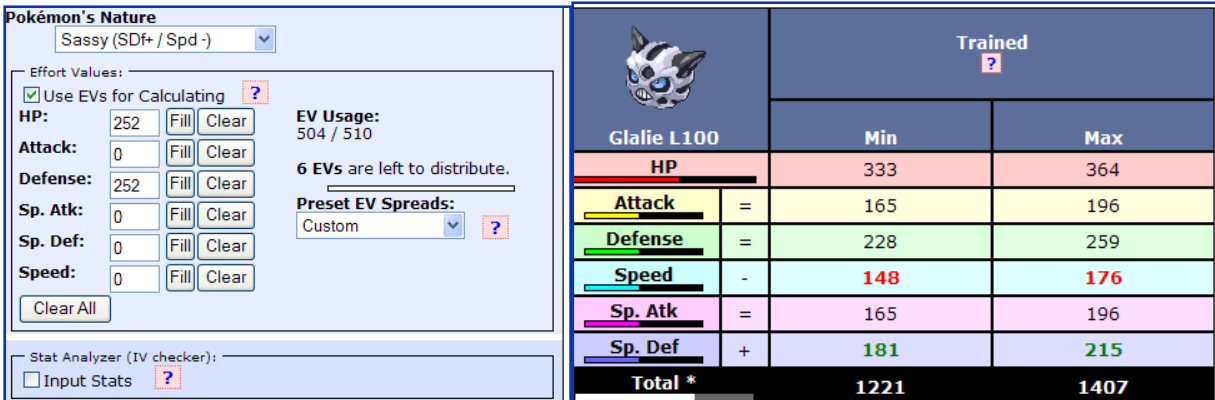


Figure 8 - Nature and EV distribution invisible to the player (Left) lead to stat changes visible to the player (Right).

Besides encouraging variation in Pokémon choices, the *Ruby* and *Sapphire* metagame forced more thoughtful refinement of the general tactics devised and employed in *Gold* and *Silver*. SkarmBliss, Toxic-Sandstorm-Spikes, and Baton Pass Offense persisted in the evolving metagame, but, with the ability to maximize a Pokémon's strengths with EV training, players carved out much more specialized roles for each member of their Pokémon teams. First and foremost, defensive strategies generally prevailed because the type of the opponent's Pokémon (i.e.: Electric, Water, etc.) often signaled whether its attacks would be physical or special, allowing the defensive player to erect the proper fortifications; furthermore, the ability to raise the weaker of a Pokémon's physical and special defensive stats using EVs better prepared Pokémon like Blissey to withstand a wider array of attacks. However, even defensive teams now employed well-defined roles in the EV-driven *Ruby* and *Sapphire* metagame; since EVs allowed trainers to hone the speed and preferred attack statistic (special or physical), sweepers could pack devastating punch with blinding speed, often beating slower sweepers to the punch. While a defensive stalwart ("tank") could survive and outlast a speedy sweeper, the faster of two sweepers often won in an offensive duel. However, tanks were not bulletproof; defensive Pokémon often fell prey to hazers, which could negate status effects like Poison and nullify the boosted defenses of tanks. Therefore, in order to deal with all possible specialists, a trainer often divided his or her own team into specialized roles, with defensively-honed

tanks to limit the opponent's fastest sweepers, hazers to counter opposing tanks, and speedy sweepers to deal with slower sweepers and hazers.

Despite the similarity of roles from team to team, the overriding tactics often differentiated one sweeper from the next. For example, a team reliant on Spikes to prevent switching often enlisted sweepers built to dispatch Starmie and other Pokémon who could learn Rapid Spin, a new move that negated all Spikes. This is where the speed EB enters the metagame. Once a player figured out which species posed the greatest threat – suppose it was Starmie – the player would distribute just enough EVs into his or her team's speed stats to outrun the fastest possible Starmie. Thus, the role designations inspired to additions to the metagame: (1.) Players now had to envision and opposing Pokémon's role in order to fathom the opponent's strategy, and (2.) because every strategy had its weaknesses, players had to devote enough speed EVs to his or her team's speed stats to ensure that the team's sweepers could outmaneuver their most feared threats. This EV distribution required an intimate knowledge of popular threats as well as their base stats, which determined the absolute highest that a Pokémon's stats could go. In brief, subtle changes in the stat generation of Pokémon quickly propagated through the game into the *metagame*, exciting drastic redefinitions of a competitive Pokémon team.

### ***Pokémon Diamond and Pokémon Pearl: Teaching Old Dogs New Tricks***

Just when it seemed like the metagame had reached stability, *Pokémon Diamond* and *Pokémon Pearl* revived the offensive metagame through a complete rebalancing of attacks. Whereas most of the returning 375 attacks retained their strength and their accuracy, each of the 466 moves in *Diamond* and *Pearl* was now explicitly *physical* or *special* independent of its elemental type; in other words, traditionally special types now had access to physical attacks, and traditionally physical types could similarly enjoy special attacks. Moreover, certain Pokémon species gained more powerful new evolutions: 28 of the 107 new species added to *Diamond* and *Pearl* are extended evolutionary forms



of Pokémon that existed in *Ruby* and *Sapphire*. These changes yielded two significant effects in the metagame.

First of all, Pokémon species that previously never saw play because their elemental types failed to match their attack strengths (a special type on a physically strong Pokémon, or a physical type on a specially strong Pokémon) or because their highest evolutionary form was underpowered suddenly became viable options in competitive play. For example, the Fire-type Flareon, always cursed with its low special attack stat, could finally enjoy Fire-type moves that capitalized on the species' traditionally high physical attack stat. As a result, many of the Pokémon species whose strongest attack stat failed to match its type could learn attacks that fit its strengths.

More importantly, though, this revival of previously misfit species completely tilted the metagame toward offensive production, since players facing defensive strategies – SkarmBliss, for example – no longer needed to rely on switching to avoid a certain style of defense. Instead, the definition of physical and special moves for every single type rendered nearly every single Pokémon a menacing attacker in some situation, making it more difficult for players to predict based only on the opposing type, whether the opponent would launch a special attack or a physical attack; instead, the trainer must rely on knowledge of a Pokémon's possible learned moves, and also its most threatening movesets. In fact, given Blissey's high special defense and low physical defense, the seasoned Blissey trainer should almost certainly expect the opponent to resort to a physical attack. This is not to say that Blissey falls into desuetude; on the contrary, Blissey has remained a formidable staple on many teams because experienced players can often predict which foes are trained physically and which will deal special damage, thereby anticipating *physical* threats and forcing matchups with *specially* strong opponents. However, that Blissey's chance of survival now depended intimately on its controller's ability to anticipate threats and put Blissey in the best possible position to succeed; in other words, Blissey's playability depended on its trainer's metagameplay – not the

player's gameplay. The prediction of a Pokémon's concentrated strength and purpose has complicated considerably since *Ruby* and *Sapphire*; a trainer in the rules of *Diamond* and *Pearl* must be more cautious and more aware of the opponent's augmented possibilities, and, as a result, defensive strategies degenerated from team-wide principles to a few hand-picked defensive-oriented Pokémon on each team. In other words, the added ability to deliver damage both physically and specially made offensive Pokémon ("sweepers") much more destructive, and, consequently, prompted players to incorporate more offense into teams that, previously, had survived purely on defense.



Figure 9 - Screenshots of Pokémon battles. Only the opponent's species and health bar are visible to you; battle menu on lower screen.

The revival of offense only heightened metagaming, since, looking at the opponent's species – the only information available on the screen – the player now needed to browse his or her mental thesaurus for all the variations of attacks this opponent could potentially deliver. As this mental lexicon expanded, so did the metagame, as players increasingly had to *summarize* entire sections by preparing for their most popular or threatening representatives. Analogously, imagine preparing for a spelling bee where all words are fair game. Does the competitor try to commit all words in the Oxford English Dictionary to memory, spending equal amounts of time studying each word? The answer is no; at the highest level of competition, spellers focus on the most difficult words. In

*Pokémon*, the metagame is determining these most troublesome words before the battle begins, and then discerning from one's knowledge and experience whether the opponent will say any of them before he or she actually does utter the words, because accurate prediction affords many advantages, such as pre-switching and bluffing favorable matchups.

As every generation of the game has attested, even the most subtle design change in the mechanics of the game yields upheaval in the metagame; despite facing more and more *restrictions* to the Pokémon battle engine, the player has actually gained more and more *choices*, as the number of viable strategies has multiplied manifold in a more fairly balanced game world. And with that increased amount of choice comes a greater need for knowledge, not only about the possibilities one may face but also about the most prevalent or preeminent threats one's own strategy may encounter. Such sensitivity to game design illustrates the metagame's strong reliance on the balance between the game's structure and the amount of choice afforded the player.

### **Staying in Touch – How Communication Technology Affects Metagaming**

For the metagame to emerge and flourish, players must have a way to communicate and compare their strategies. Nintendo's *Pokémon* has always encouraged cooperative play through local trading and battling, but only after the growth of online interaction and battle simulation could *Pokémon* truly support a healthy metagame.



Figure 10 - Local connectivity forced players to connect using short link cables.

## A Minor League: The Drawbacks of Local Multiplayer

At its outset in 1996, *Pokémon Red* and *Pokémon Blue* encouraged players to “catch ‘em all” by trading with users who played the opposite color; to motivate interaction, Nintendo deliberately left a subset of species out of each version, encouraging owners of *Red* to find and interact with owners of *Blue*. Children huddled in playground schoolyards, connecting their Game Boys with a link cable to trade Pokémon; family members and friends alike would battle to compare collections and usurp bragging rights; and, every Sunday, at dim sum, Asian children would gather to share a week’s worth of progress with friends who were attending different schools. *Pokémon* play was initially limited to local communities, but, with 151 total species in the initial version of the game, players had plenty of reasons to trade, and, more importantly, even more ways to showcase their talents and express their personalities through their uniquely chosen combination of six battle Pokémon. However, like Joe Hardcore of single-player gaming, even the most skilled schoolyard champions had no way of juxtaposing their Pokémon teams with players outside their region, because the gaming technology simply did not support it. Despite its rapidly burgeoning fanbase, *Pokémon Gold* and *Pokémon Silver* could not overcome hardware limitations of the Game Boy Color to support online play; even though the new versions eliminated the need for a link cable by utilizing the local infrared port of the Game Boy Color, multiplayer interaction was strictly local.



Figure 11 - (Left) Playground gym and (Right) dim sum Asian restaurant: two of the most popular locales for local Pokémon play.

## The Sims: Simulating *Pokémon* through Online Connectivity

However, as the Internet approached ubiquity in American homes in the late 1990s, players began posting their teams and strategies to forums such as GameFAQs, The PokéMasters, Azure Heights, RPGamer, and Pojo, often in the form of glorified walkthroughs and articles. Isolated groups of gaming gurus discussed team strategy but could not settle disputes on the battlefield until Blizzard released the unofficial Pokémon Battle Simulator in 1999. Many of its users complained that the system imperfectly emulated the game's essential mechanics – damage calculation, critical hit ratios, and status effects – but the simulator nevertheless brought similar minds together to test their strategies against each other.

Despite the exclusion of online connectivity from *Pokémon Ruby* and *Pokémon Sapphire*, hackers excavated the game's battle system code and replicated the battle engine as accurately as possible, spawning a number of user-friendly battlers. The intensely mathematical battle engine in *Ruby* and *Sapphire* facilitated the development of several Internet battle engines that simulated one-on-one and two-on-two battles from the Game Boy game, allowing trainers in Internet Relay Chat (IRC) and America Online (AOL) to test potential combinations and movesets through chat room text alone. IRC simulator RSbot and its graphical Flash counterpart, NetBattle, emerged as two of the more popular battle simulators; each permitted the user to select any combination of Pokémon and their moves effortlessly, thereby providing hardcore players a means of battle-testing elaborate strategies without grinding through in-game training or breeding for gene perfection. Essentially replicating in-game formulae for damage calculation, these bots both accelerated the development and proof of new team tactics *and* established a competitive online community inclined to prove themselves and their ideas to opponents across the Internet.



Figure 12 - Pokémon team customization screen in the simulator NetBattle. Users can prescribe stats and moves without training, a major convenience for competitive players interested in testing strategies before committing to them in the physical game cartridge.

As net battling became easier and easier, dominant strategies emerged more and more quickly.

Furthermore, fully text-logged battles allowed players to study even the minutest details to glean potential chinks in each strategy's armor. Thus, even though *Ruby* and *Sapphire* introduced no new technological advances for Game Boy connectivity, the amount of structure added to the battle system spawned a generation of online battle bots that expedited the testability of strategies and elevated multiplayer battling to a globally connected base of players. At last, by congregating in chat rooms to battle-test their strategies, competitive gamers could *see* each other's ideas in action and respond to them in real time, making high-level metagaming possible. Whereas the local metagame lifecycle usually involved only a few iterations, lasting only until the most skilled or diligent player

established dominance, the metagame between online bot battlers evolved rapidly to reflect constant countermeasures to newly devised tactics.

As a result, when Nintendo rereleased *Pokémon Red* and *Pokémon Blue* as *Fire Red* and *Leaf Green* versions with added local wireless connectivity, few veteran players cared because online simulation was flourishing, involving players that did not even own a legitimate cartridge copy of the game itself. Still, despite the healthy communication that older players enjoyed over Internet chat and forums, the lack of official support meant that users had to organize all tournaments, raising the question of selection bias; even though many cerebral gamers were logging online to compete in RSbot and NetBattle, a much larger population of Pokémon players either knew nothing about these niche communities or had no interest in playing comparatively ugly simulations of their handheld favorites. Online veterans often dismissed these notable exclusions as “casual gamers” or “kiddies,” but the fact remained that the simulated metagame differed considerably from the real-world game, not only because online battlers represented such a small subset of the player population but also because the simulation tools granted unrealistic control and ease in building a battle-ready team. Nobody knew how the field would really look when every player joined it. The online metagame, in spite of its rapid evolution, failed to reflect the aggregate ideas of the entire *Pokémon* player base.

### **All for One, and One for All: The Nintendo WiFi Connection**

Only after the Nintendo WiFi Connection capabilities of *Pokémon Diamond* and *Pokémon Pearl* opened the floodgates of online play to *all* owners of the game could the metagame truly flourish, enabling all players to test their strategies against the world and, more importantly, face a host of new tactics that they would otherwise have never seen in local play. With this capability, the Joe Hardcores of the world that avoided RSbot and NetBattle could make their names known, dominating – or being dominated by – players in other cities and countries instead of repeatedly beating the same friends and family members to submission. Furthermore, WiFi play offered its

users auto-leveling, bringing all players' Pokémon to the same experience level (50 or 100) in order to promote fair play and encourage creativity.



Figure 13 - Trainer cards proudly displaying a player's favorite team and online "friend code" (FC); often posted in a forum signature.

The most significant consequence of this globalization of competitive battling was its confluence of ideologies in the metagame. The massive influx of players introduced a massive influx of previously unseen strategies, most of which tapped obscure combos and flashy offense, leading to the banning of certain luck-based moves and items (like Sheer Cold and Quick Claw), overused Pokémon (like legendaries), and abusive combos in many play circles. Because novice players generally favored offense over defense, many of them preferred the offense-favoring two-on-two double battling realm and ended up charting new waters in double battle strategy, as few veterans played two-on-two. Meanwhile, the neophytes who stayed in traditional one-on-one battling influenced the metagame by introducing new offensive tactics that, while not ubiquitously successful, nevertheless contributed to the mental thesaurus for which opponents had to prepare; certain ideas like the sleep-inducing Spore Breloom troubled veterans who had built their teams to dismantle other, more established strategies. In other words, the hordes of sweeper teams that invaded Nintendo WiFi may not have usurped the throne from more balanced teams, but their mere presence inspired experienced players to incorporate countermeasures into their own game, ultimately forcing the competitive scene to anticipate and prepare for both fine-tuned traditional



techniques and pure offense. Both the number of variations and the number of considerations increased with the number of opponents.

Furthermore, in the hands of bot-trained veterans, good offensive strategies became great, partly because of contextualization in the existing metagame but mostly due to the deliberate hacking that many elitists performed on their cartridges in order to mimic the equity in RSbot and NetBattle. The resulting metagame therefore reflected both the offensive creativity of newer players and the die-hard mentality of more experienced online battlers, who insisted on perfecting Pokémon IVs and EVs to create a level playing field. Inevitably, this alternation of content trickled down to novices, who also began to emulate popular strategies and stat perfection. Meanwhile, the bot users that adamantly refused to purchase a *Pokémon* cartridge, abuse hacking devices, and connect to WiFi established their own niche in an improved Internet battle simulator, Shoddy Battle; Shoddy Battle was graphically inferior to supported online play, but many veterans who preferred competing or testing on a computer embraced the online simulator as a means of running ideas without the need for manual training or cheating. However, Shoddy Battle was not airtight; the more successful (or eccentric) ideas that emerged from Shoddy Battle competition propagated into Nintendo WiFi, where the confluence of creativity and competition established a metagame that every faction influenced and by which every faction was influenced.

Now, every player seeking a competitive battle subjects himself to the world's strongest strategies as well as the world's discerning eyes; he comes to know the metagame, but, more importantly, the metagame comes to know him – and adapts accordingly to the ideas he brings.

## How Player Community and Creativity Foster Metagaming

Whenever they converge, groups of players create content that affects how they play the game. For competitive games like *Pokémon*, this user-created content provides insight into how players think and act, thereby helping competitive gamers anticipate and preempt their opponents through extensive preparation and consultation of the player-created media.

### **Playing Together – The Magic of Gathering**

The mere acts of meeting and interacting alter the way players approach a game. As soon as one person makes a choice, others can respond, either through mimicry, or, as is more often the case in balanced games like *Pokémon* in which many strategies can prevail, through divergence. If Ryu, a member of the group, succeeds, then others in the community might initially try to emulate his success by implementing similar ideas. In the case of *Pokémon*, other members of the community also respond by creating entirely different teams built to thwart or complement Ryu's prototype. In casual circles, players of *Pokémon Red* might focus their energies on capturing species that their friends with *Pokémon Blue* cannot find, thereby helping each other complete a collection. Joe Hardcore, who might seek more gratification than mere exchange, could also attempt to shine by braving a speed run with a Pokémon nobody thought viable; Datai, for example, took his community's negative opinion of the Pokémon Starly as a challenge to beat the entire game using only a single Starly. After speed-running *Pokémon Pearl* with Starly, he proceeded to defeat all trainers in *Pokémon Silver* with a single Hoppip, another early evolution-form Pokémon that rarely sees competitive play.<sup>6</sup> While cooperative trading and creative speed runs rarely affect metagaming in the competitive arena, they represent the types of creations that result only when groups of players congregate to disseminate and juxtapose their ideas.

The help that one member of a community offers another often leads to creation of otherwise unattainable content. Besides trading Pokémon for the purpose of consummating one's

collection, a player might also want to upgrade certain species that can evolve only through trade, such as Machop, Gengar, Alakazam, or Slowking. Sometimes, this type of evolution requires a certain item, which only another player can supply. More often in competitive communities, players request breeding partners in a quest to beget the perfect offspring, and these parent trades make the creation of amazingly diverse Pokémon possible.

### **The Multimedia behind Metagaming – Communities’ Creation of Real-World Content**

At the highest level, this co-creation transcends the bits and bytes of in-game acquisitions to real-world media, providing resources that competitive gamers use to hone their gameplay skills and revise their strategies. Wherever players congregated to discuss their strategies and ask for feedback, guilds formed; groups of gamers, sharing a philosophy or gameplay style, built strong bonds in a variety of online sub-communities, starting with Internet Relay Chat, America Online, PokéMasters forums, GameFAQs message boards, and NetBattle help clinics. Sometimes, these guilds remained small, elitist bands on a forum, but many blossomed into full-fledged websites that supplied players with all sorts of insightful content. The meticulous derivation of breeding trees, the detailed construction and analysis of dominant movesets such as Brandon “Blueshirt32” Szeto’s Moveset Guide<sup>7</sup> or Strawhat’s Team Building Guide,<sup>8</sup> and the carefully written walkthroughs and guides posted on GameFAQs.com<sup>9</sup> constituted only the beginning of the fruits of many gamers’ labor.

### **Making Moves – The Metagame of Movesets and EV Distributions**

Moveset guides and EV distributions documented the publicized the metagame by transcribing the most popular and dominant movesets in an easily accessible text format. By reading, referencing, and, in the case of expert battlers, internalizing these documents, players had a textbook of established standards to study and prepare to dismantle. These encyclopedic analyses of famous team tactics – often cleverly named after their originators – provided an entry into the metagame; if a new team could not effectively allay those in these moveset guides, it would likely not

survive in the competitive arena. Players hoping to make a splash in the field thus designed their teams to counter those blueprinted in the guides, which, of course, the rapidly evolving metagame quickly outdated. Nonetheless, given all the details that factor into a formidable team – particularly EV spreads – a textual touchstone provided a welcome reference to those not yet familiar with all the popular strategies. Even though many of the strategies quickly faded into desuetude, several players still open the guides during matches to quickly match the opponent’s moveset with one documented in the guide.

```
Evs:  
Timid (+Spd -Att) 44/0/0/216/248/0  
- 341 Speed for Adamant Dugtrio or Modest Zam/Sceptile. Speed can be lowered  
to 330 if so desired.  
  
****FRLG Standard****  
  
Great set. Use it. The new and improved McGar variation.  
  
---  
  
GENGAR @ Leftovers  
Levitate  
"McGengar"  
  
- Shadow Ball  
- Focus Punch  
- Substitute  
- Thunderbolt  
  
The now infamous McGengar. Another of those sets which can be attributed to  
the great McGraw, McGar was originally crafted as a FRLG Blissey counter.  
Natural immunity to SToss/Counter and Sub to prevent TWave, this thing struck  
fear into many a Blissey's eyes, and it succeeded in successfully discouraging  
Slaking use for a long time.
```

Figure 14 - Example of a moveset and EV spread for the Gengar species. Named after its creator McGraw, 'McGar' describes a moveset deliberately designed to foil Blissey. The speed EV is meant to outpace Dugtrio, Alakazam, and Sceptile, three of Gengar’s most feared threats.

Besides providing a snapshot of the metagame for competitive battlers to consult in anticipation of a standard opponent, these guides helped players *build* teams by proposing EV spreads that might otherwise elude those less familiar with the metagame; for instance, the speed EVs devoted to McGar might seem arbitrary, but the guide’s author has ensured that the blueprinted McGar could outrun its most feared rivals: Dugtrio, Alakazam, and Sceptile. These kinds of considerations –

preparing for certain enemies – contribute to player awareness and thereby popularize and proliferate the metagame.

### **The Mathematics of Metagaming – Stat and Damage Calculators**

Several player-run websites stake their claim to fame on the accuracy of statistics and damage calculators, both of which elevated the level of play in online battles by facilitating prediction. Shortly after the United States releases of *Pokémon Red* and *Pokémon Blue*, Marriland founded [Pokemon.Marriland.com](http://Pokemon.Marriland.com), a repository of all things Pokémon but, more than anything else, a collection of computational resources for Pokémon players. Serebii.net was erected with a similar mindset, compiling user-created content and serving it to the entire community of Pokémon players, whether or not they cared about the exact formula underlying its operation. Game hackers teamed with web designers to unearth and divulge the game engine's cryptic formulae through a series of articles and tools. Stats calculators implemented the equations used to generate a Pokémon's statistics in the game in a user-friendly Flash application, allowing players to enter their Pokémon's in-game stats to determine the IVs and EVs that would otherwise remain invisible to casual players; this tool significantly reduced training time, as trainers could immediately juxtapose their Pokémon with those sporting ideal genes and determine whether or not to continue training the Pokémon or breed another.

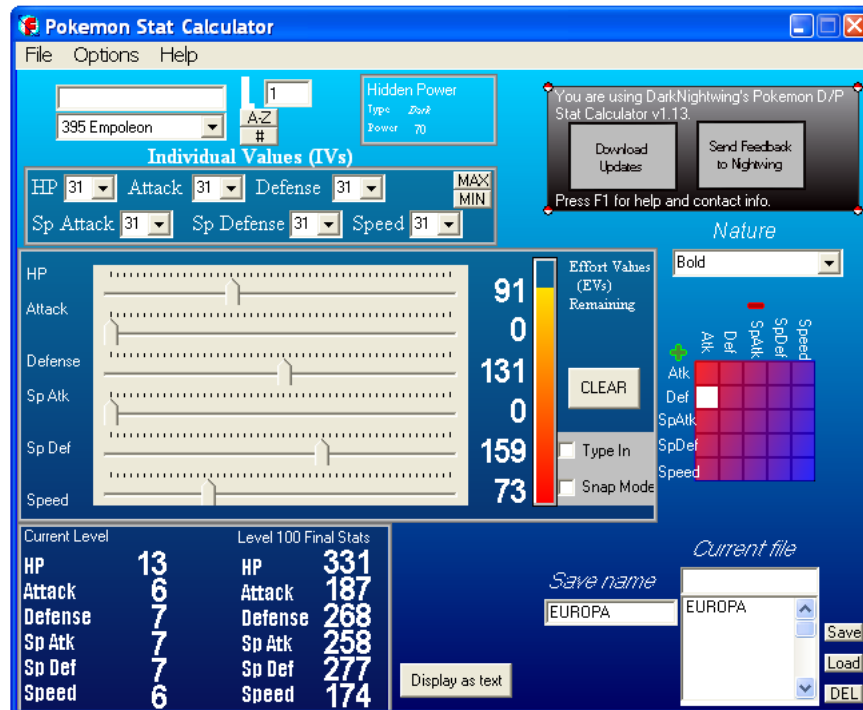


Figure 15 – Nightwing’s Pokémon Stat Calculator, which computes visible actual stats from IV/EV spreads, and vice-versa. Since an in-game Pokémon’s IVs and EVs are invisible, players often use these stat calculators to estimate them to measure genetic quality.

Similarly, the damage calculator emulated the battle engine’s damage calculation formula; before entering a move, competitive online players would first run it and their Pokémon’s stats through the calculator to approximate and estimate the damage the move would deal. As a result, players could determine, to a high degree of accuracy, how effective a given move would be. Even though the *opponent’s* stats and EV spread would remain unknown to the user, the calculators nevertheless provided the best metagamers – those who could predict the opponent’s strategy just from strategic context and knowledge of trends – with a reliable way to determine the effectiveness of their moves and the potential for knockout (KO). Combined with experience and skill, these calculators help many competitive players compute both the effects of their own moves and the likelihood of their own Pokémon’s knockout at the hands of a potentially threatening opponent, all in mid-battle. Consequently, despite their inability to foresee critical hits, the skilled use of calculators largely purged luck from battle, isolating skill and creativity as the main factors to victory. To this day, online battlers use the calculator when dueling over WiFi to predict the outcomes of a

given move against a given opponent, and many veterans have even committed the formula to memory, a true asset to metagaming.

	Your Pokemon	Your Opponent
Pokemon Name	Abomasnow	Aerodactyl
Level	100	100
Atk/Spec Atk	345	-
Def/Spec Def	-	106
Stat Modifiers	2	-3
Ability	Snow Warning	Pressure
Attack	Ice Punch	

**Optional Data**

Toggle Options:

	Your Pokemon	Your Opponent
HP (percentage)	100 %	100 %
Status	Healthy	Healthy
Item	None	None

**Global Battle Effects**

What kind of weather is in effect? Hail

Select as many of the following options that apply:

*Both players:*

Gravity

*Your Pokemon:*



Charge  
 Critical Hit  
 Helping Hand  
 Foresight/Odor Sleuth  
 Miracle Eye

*Your Opponent:*

Magnet Rise  
 Reflect/Light Screen  
 Roost  
 Water/Mud Sport

Submit

---

	<b>Iv100 Abomasnow</b>			
	Type: Grass/Ice			
	Attack: 690			
	used <b>Ice Punch</b> on			
	<b>Iv100 Aerodactyl</b>			
	Type: Rock/Flying			
	Defense: 42			

Min 5294      Avg 5758      Max 6222

It's super effective!  
 Abomasnow receives STAB (1.5x damage) for this attack  
 It's a critical hit!

Figure 16 - Damage calculator, which approximates the damage a Pokémon with given stats will inflict on an opposing Pokémon.

### Metabots – The Contributions of Simulation to the Metagame

Online battle simulators such as RSbot and NetBattle experienced similar births, created by and catering to the competitive community. As previously discussed, battle simulators expedited testing of wild new ideas, filtering and flagging unviable strategies before they entered the

competitive arena. They served as a proving ground for mathematical theorems before the authors would print them into the textbook of the metagame. By giving players the scratch paper on which they could scribble rough ideas and by uniting a community to proofread and cross-test those ideas in chat before committing to them with in-game training, simulation tools such as RSbot, NetBattle, and Shoddy Battle quickened the metagame's development.

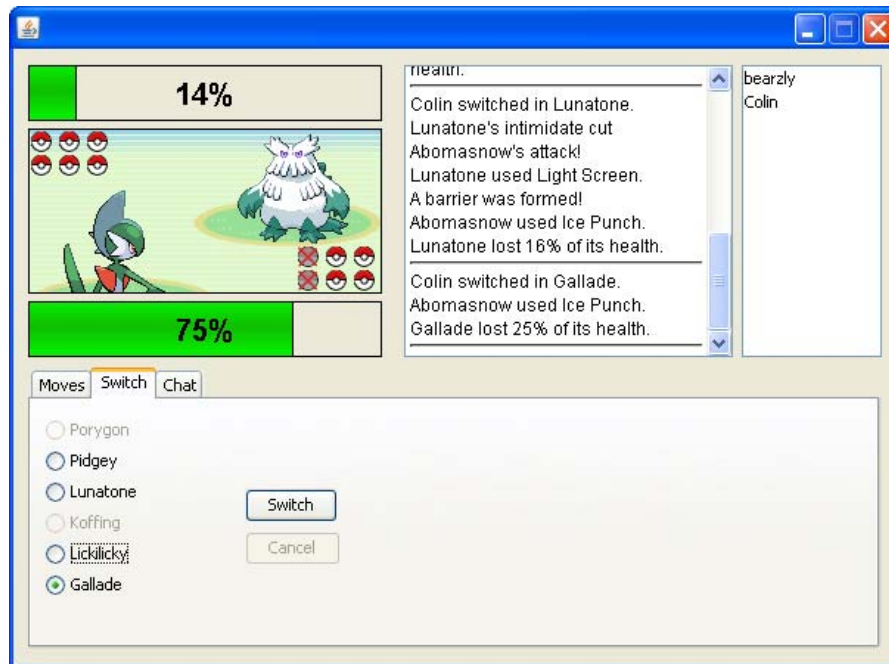


Figure 17 - Screenshot of Shoddy Battle, the cutting-edge Internet-based Pokémon battle simulator.

## Encyclopedia Pokémania – From Volumes of Data to Volumes of Metagaming

Entire web databases of Pokémon-by-Pokémon statistical information, move lists, breeding chains, item dictionaries, and in-game secrets drew visitors from all levels of play. In essence, groups of players with lots of time on their hands excavated every minute detail in every nook and cranny of the game, sharing their discoveries with the public and expediting a familiarity with and eventual mastery of the voluminous amount of information associated with the game's mechanics and each individual Pokémon. Combined with strategy articles, team-building clinics, and repositories of popular teams (with instructions on controlling them), these databases facilitated learning and understanding the game's mathematical intricacies. Because most hardcore battlers



soon absorbed and applied this information, this user-created content was not only convenient but also necessary knowledge for aspiring competitors. Some Pokémon players even use the databases to unveil hackers that teach their Pokémon moves illegal to the species or exceed 510 EVs with a cheat device, as the well-chronicled game restrictions that, ironically, hackers have excavated provide clear proof against certain movesets and combinations. In effect, the database is like a player-created ruleset for the metagame; the game data represented in these charts and tables are manifestations of the game’s restrictions as mandated by the game code, but so much of this information is hidden from common view that these resources provide the only glimpse into the system’s underlying mechanics.

Likewise, on December 21, 2007, players founded Bulbapedia,<sup>10</sup> a repository modeled after Wikipedia to circulate news of upcoming tournaments, releases, and events in addition to redirecting competitive players to user-mined data on other websites. Overall, Bulbapedia raised awareness of every intricate detail in simple lookup format, so every online battler could quickly see, absorb, and apply the common knowledge available only across the entire range of websites linked across Bulbapedia.

#26	Tamato Berry	Lowers Effort Points for Speed by 10 Points
#27	Cornn Berry	Plant in the Earth to grow Berries for Pokéblocks
#28	Magost Berry	Plant in the Earth to grow Berries for Pokéblocks
#29	Rabuta Berry	Plant in the Earth to grow Berries for Pokéblocks
#30	Nomel Berry	Plant in the Earth to grow Berries for Pokéblocks
#31	Spelon Berry	Plant in the Earth to grow Berries for Pokéblocks
#32	Pamtre Berry	Plant in the Earth to grow Berries for Pokéblocks
#33	Watmel Berry	Plant in the Earth to grow Berries for Pokéblocks
#34	Durin Berry	Plant in the Earth to grow Berries for Pokéblocks
#35	Belue Berry	Plant in the Earth to grow Berries for Pokéblocks
#36	Liechi Berry	Raises Attack when HP is below 1/3
#37	Ganlon Berry	Raises Defense when HP is below 1/3
#38	Salac Berry	Raises Speed when HP is below 1/3
#39	Petaya Berry	Raises Special Attack when HP is below 1/3
#40	Apicot Berry	Raises Special Defense when HP is below 1/3
#41	Lansat Berry	Raises Critical Hit Ratio when HP is below 1/3

Heat Wave			Details	Level Up	TM	Egg Move	3rd Gen Dex
Attack Name		Battle Type		Category			
Heat Wave		Fire		Special			
Power Points		Base Power		Accuracy			
10		100		90			
Battle Effect: Exhales a hot breath on the foe. May inflict a burn.							
Secondary Effect: May induce burn.						Effect Rate: 10 %	
Super Contests							
Effect: Points +2 if first to appeal							
TM #		Speed Priority		Pokémon Hit in Battle			
None		0		Both opponents			
BrightPowder		King's Rock		Physical Contact			
Yes		No		No			
Pokémon That Learn Heat Wave By Level Up in Diamond/Pearl							
No.	Pic	Name	Type 1	Type 2			
#006		Charizard	Fire	Dragon			
#058		Growlithe	Fire	Normal			
#146		Moltres	Fire	Dragon			
#324		Torkoal	Fire	Normal			
#485		Heatran	Fire	Normal			
Pokémon That Learn Heat Wave By Breeding							
No.	Pic	Name	Type 1	Type 2			
#037		Vulpix	Fire	Normal			
#038		Ninetales	Fire	Normal			
#058		Growlithe	Fire	Normal			

Figure 18 - Database entries for (Left) berries and the effects they bring to their holders; and (Right) the Heat Wave special attack and all Pokémon that can learn it.





























#461 Weavile					General	Location	Attacks	Stats	Egg Moves							
 Male Sprites		National No. 461	Sinnoh No. 145	English name Weavile	Japanese Name Manyula											
 Female Sprites		Ability: Pressure Pressure: When this Pokémon is hit by a move, the opponent's PP lowers by 2 rather than 1.														
Gender Ratio																
Male: 50 %					Female: 50 %											
Classification		Type 1	Type 2	Height	Weight											
Sharp Claw Pokémon		 DARK	 ICE	3'08"	75.0 lbs											
Evolution Chain																
																
Damage Taken																
 NORMAL	 FIRE	 WATER	 ELECTRIC	 GRASS	 ICE	 FIGHTING	 POISON	 GROUND	 FLYING	 PSYCHIC	 BUG	 ROCK	GHOST	DRAGON	DARK	STEEL
x1	x2	x1	x1	x1	x0.5	x4	x1	x1	x1	x0	x2	x2	x0.5	x1	x0.5	x2
Pre-Evolution Moves																
Attack Name	Type	Cat.	Att.	Acc.	PP	Effect %	Means									
Agility	 PSYCHIC		--	--	30	--	 Lv. 24									
Relaxes the body to sharply boost SPEED.																
Slash	 NORMAL		70	100	20	--	 Lv. 35									
Slashes with claws, etc. Has a high critical-hit ratio.																
Beat Up	 DARK		10	100	10	--	 Lv. 38									
Summons party POKÉMON to join in the attack.																
Ice Shard	 ICE		40	100	30	--	 Lv. 49									
Always strikes first																
Base Egg Steps to Hatch			Effort Points from Battling it				Catch Rate									
5,120 Steps			1 Attack Point(s) 1 Speed Point(s)				45									
Egg Groups																
Lists Of Groups						Group Names										
 Rattata						Ground										
Stats																
		HP	Attack	Defense	Sp. Attack	Sp. Defense	Speed									
Base Stats		70	120	65	45	85	125									
Min-Max	Lv50	130 - 177	112 - 154	63 - 105	45 - 87	81 - 123	117 - 159									
<i>Hindering Nature</i>		250 - 344	220 - 305	121 - 206	85 - 170	157 - 242	229 - 314									
Min-Max	Lv50	130 - 177	125 - 172	70 - 117	50 - 97	90 - 137	130 - 177									
<i>Neutral Nature</i>		250 - 344	245 - 339	135 - 229	95 - 189	175 - 269	255 - 349									
Min-Max	Lv50	130 - 177	137 - 189	77 - 128	55 - 106	99 - 150	143 - 194									
<i>Beneficial Nature</i>		250 - 344	269 - 372	148 - 251	104 - 207	192 - 295	280 - 383									

Figure 19 – Partial Pokédex entry for species #461: Weavile, detailing weaknesses (top) and base stats (bottom).

Databases gave online players easy access to a vault of helpful lists, augmenting the knowledge base of the average competitive battler by compactly listing each Pokémon species’

possible learned moves and base stats and detailing the strength, accuracy, and nuanced effects of all moves. As a result, players knew – and expected their opponents to know – all the possibilities for a certain species, as all the information is readily available and easily digestible in a browser window during a battle. All in all, these compendiums promoted knowledge and assisted prediction, hence promoting and facilitating the online metagame.



Figure 20 - Smogon, Serebii, and Bulbapedia are three player-established websites that encourage submission of user-created content.

### **Pokémon for Dummies – A Classroom for Competitive Battling**

In addition to the battling toolbelt that databases, move lists, damage and stat calculators provided, many of these websites offered their own unique glimpse into the competitive metagame. In 2004, a core of experienced players founded Smogon University, compiling articles and hiring tutors to train apprentices interested in becoming competitive battlers. Now, even novice players can quickly join the ranks and tap the knowledge of experienced veterans if they wanted an expedient entry into metagaming. The website prides itself on attracting a community of hardcore Pokébattlers, providing a gathering ground for players interested in discussing and preparing for the metagame.<sup>11</sup>

### **Code Warriors – Pokésav and the Hacker Community**

The community of hackers, working through Datel's Action Replay DS cheat device, also influenced the metagame by developing tools that could generate Pokémon modifying codes. Launching the code-generating program on Pokésav.org,<sup>12</sup> a team of hackers invited Action Replay DS users to alter game data and achieve perfect Pokémon; theoretically, the clients of this software

could teach any Pokémon any move and boost all stats to 999, but most Pokésav users went only as far as a legal Pokémon could go. Because competitive players knew their limits – 510 EVs, species-restricted movepools, and species-specific base stats – the scene did not see a sudden rampage of illegal Pokémon; those that were illegal were caught and stigmatized for online play, so they had no effect on the metagame.

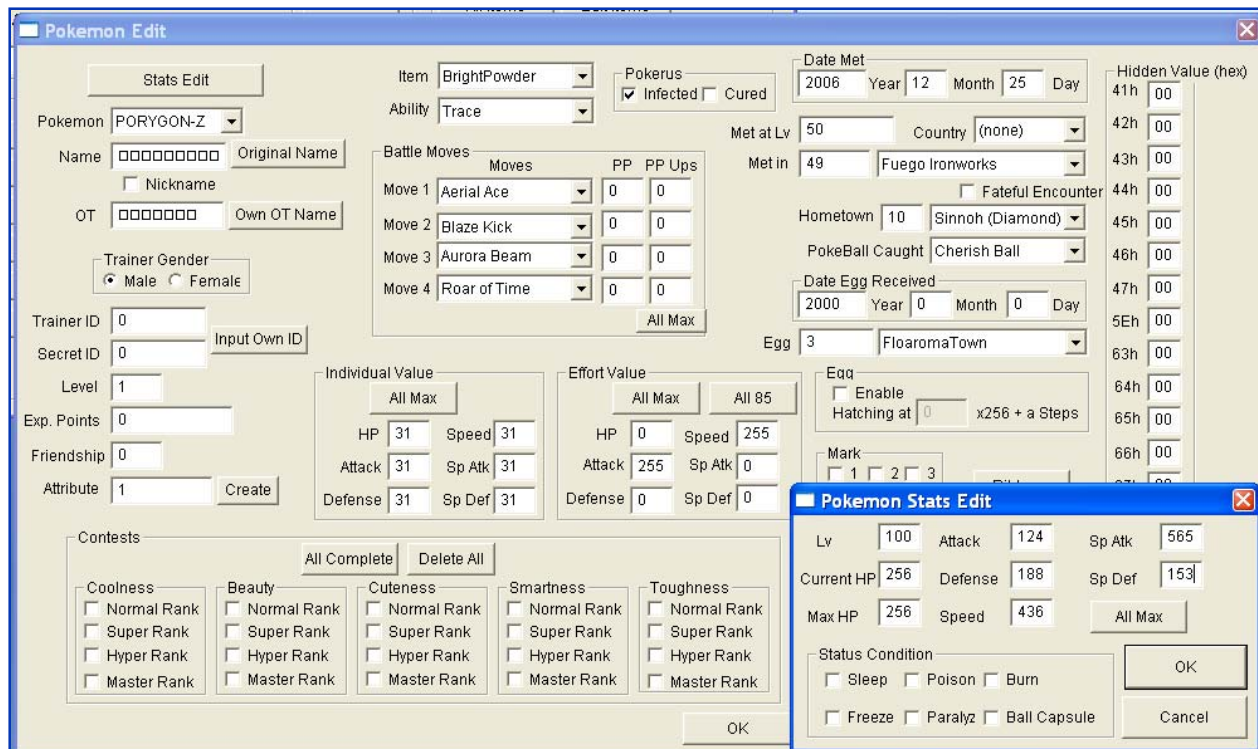


Figure 21 - Screenshot of Pokésav modification screen, where the user can enter a Pokémon's desired stats.

However, Pokésav did provoke change in the metagame in that prediction became a more potent weapon when the majority of competitive players eliminated genetic variations through Pokémon-modifying codes. Instead of leaving IVs to randomness and EVs to potential mistake (it is difficult to count EVs battle by battle), competitive players used Pokésav to bless their teams with the ideal genes, much as bot users automatically ensured in online simulators. Although one might argue that this reduction of genetic variation penalizes fair players who painstakingly breed and train their Pokémon, few can dispute the effect these modifications have had on the metagame. While the elimination of genetics in Pokémon growth might initially seem to limit variability, the loss of a

random factor actually expanded the metagame by ensuring a level playing field that rewarded skill and intelligence. For instance, players could now expect *all* Blisseys to have maximal special defense ( $\pm$  EV spreads), making prediction a much more reliable and essential component to victory. Also, players could more often trust the damage calculator when they knew opposing Pokémon's stats to higher precision. "Being intelligent pays dividends when you know more about your opponent, and knowing your opponent will be the best he can be forces you to play smarter. Mistakes are more costly, and speed training makes that much more difference when you can count on opponents with max speed [within the species' base stat restrictions]," Xerxes ascertains. Moreover, creativity and ingenuity become the prime determinants of victory in a league where only the game's deterministic species-specific boundaries limited players.



Figure 22 - Tools of the trade: (Left) Nintendo WiFi USB Connector; (Middle) Webcam; (Right) Action Replay DS cheat device

### **Replay Value – How Video Clips Influenced the Metagame**

In addition to the informative text of chat and forums, fully commented videos of Pokémon battles also pervaded the Internet and consequently the metagame. When hardcore players competed over Nintendo WiFi, they often recorded their matches with a webcam to study in retrospect and post for public consumption. The battle videos posted on YouTube, Truveo, and other video-hosting sites provided players with both free instruction and publicity; the seasoned veterans, often drunk with egotism, added music, personal flair, and cocky commentary to their victory clips while attracting a swooning fanbase, while the newcomers – the videos' target audience

– learned about the intricacies of competitive battling. These videos and their commentary provided invaluable introduction and insight for neophytes entering competitive play while boosting the egos of the competitive battlers, who typically dominated the posted matches (players seldom posted losses). On the one hand, the inexperienced viewers commonly adhered to these videos as an instruction manual – a Bible, for some – detailing the dos and don'ts of the metagame.

On the other hand, the more experienced part of the audience tapped YouTube and Truveo as film libraries that served as study material for future matches against fellow contenders. Like film in a professional sports league, these ten-minute-long clips became, for the online competitor, a way to correct his or her own mistakes and locate those of other players and their favored strategies. Top players tracked footage of other renowned opponents and noted their favorite Pokémon and their switching trends, so, when they met in the future – possibly at a tournament – the studious film watcher would know and exploit those proclivities both before and during battle, where a single correct switch could tilt the momentum in one player's favor. In fact, a player's past behavior has become such an indicator of future behavior that some expert players have refrained from posting videos of their newly devised teams until winning several battles. "I try not to upload vids until I have at least four with this [new] team up so that people don't realize it too soon," admitted competitive online battler Xerxes. Once a successful new strategy emerges on the Internet, it inevitably spawns two responses: the mimics who strive to emulate its success, and the rivals who, comfortable with their own tactics, begin devising countermeasures to thwart it.

An awareness of the field defines the metagame; knowledge has literally become half the battle. Competitive battles often evolve into a game of repeated Pokémon switching entire turns before the opponent's strategy comes to light, all because experienced players feel they have seen and can preempt the tactic they are facing. "I always remember what my opponent packed in his last match using the same team, and one of the keys to victory is never letting him surprise me with

a trick he already pulled out of the bag in a previous match,” Xerxes reveals. Having viewed the recorded media of past matches, competitive players employ anticipation more than ever to gain an edge. So much information of player trends exists that the most competitive players can often predict entire movesets well before seeing them, and the best trainers utilize this information by switching to a Pokémon that can handle both the opponent’s current Pokémon and the one to which the opponent is most likely to switch. Because the right switch often opens up a close match, victory in the game itself depends intimately on victory in the metagame.

With documented EV spreads and movesets to consult for probable opponent strategies, damage calculators to predict the effects of moves, online film libraries to study for player-specific habits, databases to reference for all possible threats, Pokésav to eliminate random flaws in Pokémon, and forums like Smogon to find worthy competition, competitive players could not only manufacture their dream teams – within the game world’s restrictions, of course – but also test them against a highly skilled and knowledgeable community of fellow trainers. The vast amounts of information surrounding these players essentially eliminated chance in online matches. In short, the existence of this user-created content elevated the metagame beyond luck, placing a premium on the players’ pure skill, creativity, and awareness. The larger the mental thesaurus a player’s mind could support, the better the player would perform in real-time Pokémon battle. With community-generated content theoretically expanding mental thesaurus to capacity, the competitive circuit has seen the elevation of mind over matter: The player with the most cultivated sense or knack for anticipation and the most diligent study and preparation becomes the best competitive battler. The best metagamer is the best gamer, an indication that the metagame has grown larger than the game itself.

## High Stakes – How Competition Shapes the Metagame

Just as every game has a metagame, every game invites some degree of competition. When the stakes rise, the amount of time and energy that players devote to the metagame also increases; naturally, when the rewards outweigh the investment, competitive players resort to all kinds of extremes to gain an edge.



Figure 23 - Filming opponents for future study is a regular practice in professional sports leagues: Major League Soccer and the NFL.

### **An Example: Intense Competition in American Football**

Consider, for example, an athletic sport such as American football. In a twelve-and-under league, the only stakes are pride and (perhaps) a party, so the amount of scheming and preparation that coaches install is marginal at best; most children play for fun, and school and enjoyment are higher priorities to them than obliteration of worldwide competition. On the other hand, in a professional league like the National Football League (NFL), the stakes are much higher; for one, the players focus their entire lives – their career – on competing, so they naturally have more time and energy to devote. More importantly, their performance directly affects their profit, and victory brings lucrative rewards, in the form of international recognition, endorsement deals, priceless Super Bowl rings, and possibly even pay raises (in the form of contract extensions, signing bonuses, etc.); in these cases, when jobs are on the line, players and coaches alike spend much more time in the metagame – more time preparing off the field than playing on it. Besides frequent organizational meetings and voluminous playbooks, teams often perform extensive film study of opponents to



acquire any competitive edge possible; some teams like the New England Patriots even film opponents' practices and in-game signals, presumably to predict and preempt upcoming strategies. How does film study exemplify metagaming? The resulting competition departs the fundamental *game* of basic throw-and-catch or run-and-juke, often elevating the match into one of schemes, formations, and mind games. Of course, running and catching still form the fundamental core of the game, but victory requires more than fast legs and strong arms. If one team studied film and an equally skilled team did not, the metagame would be a blowout; offensive players from the studious team would consistently catch the ball wide open, and its defensive players would detonate opposing plays before they even unfolded.

### **The 'Gamer' – Intense Competition in the Digital Age**

Digital games, as well, display this correlation of high stakes competition and intense metagaming. Multiplayer games like Mario Party, no matter how competitive they become, seldom provoke film study and hours of practice; of course, game design is as responsible as the lack of competition, but the scene would change if the World Cyber Games suddenly rewarded top Mario Party players with monetary prizes. Consider Halo 3 and Goldeneye 64, or Super Smash Bros. Melee (GameCube) and Super Smash Bros. (N64). In each pair, the game that was more often featured in tournaments generated more public attention, more anticipation, more preemption, more documentation of strategy, more film study, more analysis – in a word, more metagaming. This disparity does not necessarily imply that the featured game is more complex or cerebral than the neglected game, or that the featured game is more popular or widely played than its less metagamed counterpart. Instead, the larger tournament scene and the more lucrative prizes that reward playing one game well over those that accompany playing another game well often generate a disparity in the amount of time the corresponding virtuoso hardcore players spend devising killer strategies and studying the field. Even though every multiplayer game boasts its dedicated following of tireless

veterans, the most publicly visible and rewarding multiplayer games see the most players take the highest extremes.

### Poké battling for Pride – The Competitive Scene of *Pokémon*

In the context of video games like *Pokémon*, the consequence of destroying neighboring scrubs in Pokémon battle would offer Joe Hardcore little beyond personal pride, self-confidence, and local infamy. In *Pokémon Red* and *Pokémon Blue*, this “local” infamy seldom extended beyond playground praise and schoolyard worship. Even when hardcore Internet battlers organized their own tournaments to determine the best in a guild or community, neither the stakes nor sacrifices were substantial enough to move beyond the initial metagame; although some websites offered prizes like Game Boys and small-sum gift certificates, the low publicity of these niche events and the ease with which netbattlers could configure a team of perfect Pokémon limited the metagame from reaching the potential it saw at Nintendo’s officially sponsored events, which occur regularly in Japan and Korea. That is not to say that the metagame fails to exist or expand; as previously described, the sheer number of choices and the overwhelming popularity of online battling sustain the metagame in a healthy cycle. Nevertheless, in the United States, the metagame’s proportions seldom approach those of a World Cyber Games feature or a Major League Gaming (MLG) championship event, as the lack of tournament footage reveals.



Figure 24 - Double battles (2-vs-2) are the preferred format in officially sponsored events, in Japan, Korea, and North America.

A number of teams and strategies in Pokémon double battling – Dark Void Smeargle, Trick Room Bronzong, Choice Scarfed Typhlosion, and Rain Dance Dusknair – originated in Japan,<sup>13</sup> reflecting the high frequency of official Pokémon battling tournaments in the country. Because Nintendo, the official tournament sponsor, wishes to open the competition to all age groups while limiting the time of each round, the general format involves double battles instead of single battles. The metagame around these events has therefore focused on two-on-two battles in which, at first glance, offense seems to reign. However, the lack of a sleep clause (limiting the number of Pokémon each player can put to sleep) in these events has enabled more defensive-minded trainers alternatives to simply outspeeding the opponent. For instance, Dark Void Smeargle focuses on putting both opposing Pokémon to sleep on the first turn, significantly handicapping speed teams. Trick Room teams exploit the move Trick Room, which, after its activation, reverses turn order, allowing the slowest Pokémon to strike first. A number of dynamic strategies have since surfaced in Japan to counter the Trick Room; some of these countermeasures even arise between regional tournaments, indicating that the metagame evolves quickly to reflect the results of competitive events. Whereas a Level 1 Endeavor Smeargle dominated the first regional qualifier, enough contestants know about the quirky tactic by the next event that the idea completely fades from prominence. All in all, the metagame metamorphoses with each public match, simultaneously absorbing successful strategies and adapting to counter them.<sup>14</sup>

Whereas the Japanese and Korean national tournament circuits are well established, nationwide American events are few and far between, restricting the Pokémon metagame to the user-defined tournaments held over WiFi and Shoddy Battle. Because only the occasional Nintendo-sponsored event offers any substantial prize money, most competitive Pokémon battlers either travel overseas or settle for name recognition among competitive play circles such as Smogon and the MLG-sponsored ladder on GameBattles.com.<sup>15</sup>



Figure 25 - (Left) Journey Across America 2006 and (Right) Pokémon Showdown 2008, the only two official tournaments ever announced in North America to this day. Showdown to occur in August 2008. Both events focused on two-on-two double battles.

Even though the metagame continues to evolve away from tournaments, the sudden changes that typically accompany tournament announcements show that competition can elevate the existing amount of preparation to a new level when the possibility of public performance and visibility exists. When Nintendo does announce a United States event – as it did in 2006 with the Journey Across America (JAA) and as it recently has with the Pokémon Showdown 2008 – the metagame often expands to reflect the spike of attention that the event generates. For instance, when the Pokémon Showdown rules and rewards<sup>16</sup> first appeared on Nintendo’s official Pokémon website, announcing the use of a two-on-two double battle for its tournament, double battle teams flooded the forums, while netbattlers flocked to the cartridge to begin painstakingly raising strategies perfected through simulation. Similarly, the JAA tournament finals, which featured Exploding Gengars, Follow Me Clefables and Chesto Rest Snorlax, reflected the culmination of months of metagaming, mostly against the predictably popular legendary Pokémon species that Nintendo surprisingly allowed into the competition. All in all, the metagame’s existence does not depend solely on public competitions, but their presence and publicity heighten awareness and encourage increased amounts of metagaming. In Japan and Korea, where such events occur regularly, the metagame cycle accelerates much more frequently to reflect these periodic competitions.

## Conclusion

The *Pokémon* metagame has evolved beyond the schoolyard and family living room because the game engine, connectivity, community, and competition have all grown and matured. From its inception, *Pokémon* has fostered personal expression and player choice. As distinct, personalized styles have increasingly impacted gameplay, the metagame has multiplied beyond a few dominant strategies, accelerated by communication between players in dedicated communities such as Smogon. Further fueling the metagame, user-created tools such as battle simulators, damage calculators, and comprehensive Pokédex move listings have slowly culled chance from competitive play, shifting the focus of online players toward knowledge and preemption – metagaming – rather than formulaic team-building through traditional models. This maturation process begs us to ask what the future will hold: What kind of expansion remains to a metagame that, since the introduction of WiFi multiplayer, has seemingly peaked? Future versions of *Pokémon* will likely feature added species, moves, and type combinations, but the backwards compatibility of Pokémon battling and the continued inclusion of WiFi will likely tinker rather than drastically alter the metagame cycle. A few possibilities remain where human input can shift the current paradigm of predictability.

For one, *Pokémon* has inspired a large demographic with its emphasis on creativity and its potential for realizing it, but the artistic style – its rejection of cutting-edge graphics and its superfluity of child-friendly characters – has turned many distinct demographics away. As the industry moves to expand the gaming culture to females and middle-aged gamers above the age of 30, future installments in the series could expand the metagame simply by creating alternative versions that beckon to these alternative demographics, inviting *Animal Crossing* aficionados, *Super Smash Bros Brawl* enthusiasts, *Final Fantasy XI Online* regulars, *Madden* armchair quarterbacks, and *World of Warcraft* veterans to try building teams of their own in an environment that they find appealing: fantasy worlds of more competitive in-game arenas, for example. The developers at

Game Freak have attempted to infuse part of the metagame into the more difficult Battle Tower in *Pokémon Emerald*, an upgrade to *Pokémon Ruby* and *Sapphire*, but these added challenges appeared only after one completed the game, thereby turning away less patient players.

The other welcome possibility for further development of the metagame would be increased competition at both local and national levels. A regular circuit, like the one that the DCI has established for Magic: the Gathering events, with official player rankings and rules favoring creativity and fair play, would better publicize competitive Pokémon battling, thereby accelerating the metagame's regular biorhythm. If competitive *Pokémon* gained the public visibility of shooters like *Halo* or real-time strategy games like *Starcraft*, the amount of prediction and the intensity of preparation would reach the next level in America, as it already has in Japan. In other words, if Nintendo or the World Cyber Games regularly sponsored or sanctioned official *Pokémon* tournaments featuring monetary reward, televised coverage, and public recognition, then the elevated attention would likely also excite increased metagaming.

All in all, metagaming is a ubiquitous phenomenon that appears in all games and all levels of play, from a high school Chess Club and Las Vegas casino poker to the preeminent World Scrabble Championship. However, like the human ego, metagaming grows faster and stronger where people gather: under the spotlight and on the stage.

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<sup>1</sup> David Sirlin. "Game Balance, Part 1," p. 3. <http://www.sirlin.net/archive/game-balance-part-1/>.

<sup>2</sup> Example inspired by Wikipedia entry "Metagaming." <http://en.wikipedia.org/wiki/Metagaming>.

<sup>3</sup> David Sirlin. "Game Balance, Part 1," p. 2. <http://www.sirlin.net/archive/game-balance-part-1/>.

<sup>4</sup> i\_like\_evil. "Not Every Diamond Shines Brightly." <http://www.gamefaqs.com/portable/ds/review/R115304.html>.

<sup>5</sup> Craig Harris. "Pokémon Diamond Review." IGN.com. <http://ds.ign.com/articles/782/782443p1.html>.

<sup>6</sup> Datai. "Starly Speed Run Finale." <http://www.youtube.com/watch?v=w0DWCIZgMsk&feature=related>.

<sup>7</sup> Brandon Szeto. "Pokémon FRLG Moveset Guide." <http://www.gamefaqs.com/portable/gbadvance/file/921905/30755>.

<sup>8</sup> Strawhat. "Pokémon Moveset/Team Building Guide." <http://www.gamefaqs.com/portable/gbadvance/file/471243/27808>.

<sup>9</sup> For example, *Pokémon Diamond* and *Pearl*: <http://www.gamefaqs.com/portable/ds/game/925601.html>.

<sup>10</sup> Bulbapedia. [http://bulbapedia.bulbagarden.net/wiki/Main\\_Page](http://bulbapedia.bulbagarden.net/wiki/Main_Page).

<sup>11</sup> About Smogon University History. <http://www.smogon.com/about>.

<sup>12</sup> Pokésav. <http://pokesav.org>.

<sup>13</sup> Smogon Community Forums. "Official Nintendo Pokémon Tournament: Page 11, Post #258."

<http://www.smogon.com/forums/showpost.php?p=1213894&postcount=258>.

<sup>14</sup> Smogon Community Forums. "Official Nintendo Pokémon Tournament: Page 11, Post #258."

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<sup>15</sup> Major League Gaming Pokémon DS Game Ladders. <http://gamebattles.com/ds/pokemon>.

<sup>16</sup> 2008 Pokémon Video Game Showdown: Official Rules. [http://showdown.pokemon.com/rules/complete\\_rules.xhtml](http://showdown.pokemon.com/rules/complete_rules.xhtml).

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