Welcome, Broth Siblings, as well as Supperstars, to the second episode of the Supper Mario Broth Supper Show podcast. Thank you so much for your contributions, your kind words of support, and most of all, your patience with me delaying this podcast.

I must apologize for taking almost exactly two months more than expected to create this episode. I have kept adding to it more and more each time I attempted to finalize it, and I hope that the resulting several-hour long recording will be entertaining or informative to at least one person. Please remember that you are entitled to a refund. The November podcast about Zelda and Mario cross-references is almost finished, it will be released before the middle of December, and then the actual December podcast before the holidays. I have been working on both of these in the background over the past months and I will do my best to finally catch up to the release schedule of both the columns and the podcast this month to be able to start 2019 with no overdue content.

Today's topic is "Visual Design in Super Mario World: An Exploration of Hypotheticals". I will spend a very long time talking about the philosophy of facts and opinions, and then an even longer time that will make the first long time seem short in comparison talking about Super Mario World, offering a variety of facts and opinions on it. I hope you're ready.

It's time to have a blast from the past. This is the Supper Mario Broth Supper Show.

This podcast is special to me as it will be the first occasion since the creation of Supper Mario Broth where I will dedicate an entire publication to something I normally try my best to avoid - giving my opinion. Now, as you may know, I endeavor to keep my blog as factual as possible. All content is subject to my veracity policy, which states that every post is factual, sourced, and is immediately edited or deleted if any error is found within it. This, of course, leaves very little room for opinion - although some of it is still present in the form of side remarks in the form of "this sprite was likely used for the following" or similar. Whenever my opinion is given, it is always delineated as speculation by the usage of words like "probably", "likely", or "could", to separate it from the main commentary, which is - to the best of my knowledge at the time of each posting - always factual.

However, some discussion cannot be conducted with facts alone. We all form opinions, and these opinions are at the heart of the decisions we make in all aspects of life. To ignore opinions would be not just to ignore human nature, but also to limit ourselves to areas of discussion where facts are available in the first place - which is fine when talking about hard science or the past, but less ideal when attempting to talk about art, or the future. Aesthetics are subjective, the future is unknowable, and yet these are topics of great importance that we all desire to discuss; therefore even the most fact-focused person must acknowledge that without offering opinions, communication can not unfold to its fullest.

In this podcast, I will discuss Super Mario World and offer a view into hypothetical scenarios where parts of the game are changed in minor ways. I will offer my opinions on the reality of how the game is, and on the hypothetical changed versions of the game. Of course, my opinions will not be unfounded. For each opinion I discuss, I will present the facts and the logic I used to arrive at those opinions; so that even if you rightfully decide in advance that you are not interested in my opinions - after all, I imagine many of my readers specifically value the fact-centered approach of my blog - you may still listen and hopefully learn facts

previously unknown or not considered by you, to form your own opinion.

I will also talk about the nature of opinions and facts themselves, as well as how they differ from another type of statement - the "judgment", which is something I always avoid making, even within this podcast. You may consider some of the opinions I express to be critique - I will also discuss how critique is separate from judgment, and how offering critique is not equivalent in expressing a dislike for the subject. Of course, we all know this, and yet human psychology makes it very easy to dismiss someone's critique by simply categorizing it as an expression of dislike. It is important to me to mitigate this effect as much as possible, which is why I will begin by making it clear than I do not dislike Super Mario World.

I adore Super Mario World. In my opinion, Super Mario World is one of the best Mario games that currently exist; I would put it in my personal Top 5. Over the years, I have spent many hundreds of hours playing Super Mario World, and I can say with confidence that I have memorized the game to the point where I can somewhat accurately recall the layout of all its levels. I do not dislike any Mario game - although certain ones are definitely of slightly lower interest to me than others - but there is a difference between "not disliking" and "loving", and I love Super Mario World.

Of course, anyone could say these things. The previous statements are praise, to be sure, but they do not go in-depth enough to be truly convincing if you were suspicious of me disliking the game. Thus, I will share a few more detailed accounts of my experience with the game to make it unambiguous and unmistakable that I have nothing but respect and admiration for it.

For the last several years I have very regularly - at least once a week - checked the website smwcentral.net for new submissions. smwcentral.net is a community centered around modifying, or "hacking", Super Mario World to create unique experiences, from small changes like making the game harder to all-encompassing revampings offering new levels, a new overworld, new graphics, new enemies with new AI and even new mechanics. I have played roughly 500 hacks - about half of all hacks in the site's archives - and finished over 100 of them with full completion. While these are certainly not impressive numbers for Super Mario World hack enthusiasts, please keep in mind that I had to make time to play these between my work on discovering content for the blog. I would say that if I counted the hacks together with the unmodified game, I have spent more time playing Super Mario World than any other Mario game, or video game in general.

Here is an example of an opinion of mine that hopefully illustrates the respect I have for Super Mario World: I believe that the Spin Jump mechanic, as featured in this game, is not only the best implementation of the Spin Jump in the Mario franchise, but also the best choice-based movement mechanic in the series. Let me clarify what I mean by "choice-based". Whenever the player wishes to perform a jump, there is a choice between pressing the B button for the regular jump, and the A button for the Spin Jump. Unlike later games in the series, where the Spin Jump reaches a much lower height than the regular jump, in Super Mario World the Spin Jump raises Mario about 80% of the regular jump's maximum height, which is viable in most platforming situations. In my opinion, the trade-offs between the two types of jump in Super Mario World are balanced so perfectly that there are relatively few situations where there is an "optimal" choice for a specific jump. Do I choose the regular jump for extra distance or do I choose the Spin Jump to be certain that whatever object I land on will be unable to hurt me? In addition, giving Mario the ability to bounce off flames, Lava Bubbles, Grinders and Boos

provides nuance to the platforming that is absent in other games that limit the Spin Jump to not work on the aforementioned objects.

I apologize if this has taken too long, but I hope that by now most of the listeners' doubts that I wish to critique Super Mario World due to disliking it have been dispelled. I firmly believe that no piece of media exists that cannot be made better - or in this case, even better - no matter how flawless it already is. And while suggesting ways to improve an existing work will not change the work itself (unless it is still being updated), the insights gained by analyzing the work and suggesting potential improvements can be used in the future to build other works and help make better decisions. Therefore, please take my commentary not as an expression of the desire for Super Mario World to be different, but as thoughts on how future games can be made more immersive.

It is very hard to give critique on something using only facts, since facts can only describe things as they are, but not offer any information on what the critic believes things ought to be. Consider the following example: assume I wanted to suggest that Super Mario Land on the Game Boy would be better if it had more levels. This is, of course, not a refined critique; it is very close to stating that the game would be better with more content, which is essentially the tautology of "this work would be improved if more work were done on it". However, how could I possibly explain this using only facts? I could state that Super Mario Land only has 12 levels, which is a fact. I could then state that all other 2D Super Mario platformers had a larger amount of levels, which is also a fact. But what would that prove? Researching aggregate critic scores, like Metacritic, for the various 2D Mario titles shows that there is no correlation between level count and score; nor is there a correlation between level count and sales numbers (using publicly available sources). Despite having the smallest amount of levels in the sub-series, Super Mario Land received good reviews and was one of the best-selling games not just among Mario platformers, but among all games with "Mario" in the name.

All of this could be argued to have nothing to do with the game's objective quality; the high sales could have been solely due to the platform the game is on, as the Game Boy was immensely popular and Super Mario Land was for a significant amount of time the only Mario platformer on the system. The reviews could have been mostly impressed by a Mario platformer running on a portable system without regard to how much content the game has or how much the mechanics actually match previous titles in the series. But those all aren't facts, and you will never find a factual source that completely proves those statements. In the end, many statements necessary to offer critique of a work can never be provable; a statement like "the high sales numbers of Super Mario Land were not chiefly due to the game's quality" contains so many assumptions that no amount of evidence could constitute complete, rigorous proof of it. Therefore, it is necessary to give opinions to create a hypothetical scenario in the reader's mind that the reader will hopefully agree with the critic on. After introducing the facts, a statement like "based on this information, I believe the following..." allows the writer to transition to the hypothetical and begin trying to convince the reader on how things should be.

...Or at least, this is how it goes in scenarios where all statements are clearly recognizable as facts or opinions - but as reading most reviews (not just of video games, but of any product or service) reveals, this is rarely the case. Often one encounters statements like the following: "Super Mario Land is a short game.", or "Super Mario 64 DS lacks the charm of the original Super Mario 64", or "Super Mario Odyssey is a masterpiece". Let's think about them for a

second. Are they facts, or opinions? The answer is that they are neither. They are a third type of statement known as a judgment. Judgments are extremely common in everyday speech and are used in almost all situations by almost everybody, even when the person using them is aware of the fact that they should not be using judgments. And please don't think that I am somehow of the opinion that I am good at avoiding judgments - I have already used several in this very podcast. All I can say is that I try my best to avoid them, but of course, since it is human nature to judge, I fail just as often as everyone else.

So, what exactly are facts, opinions and judgments? Let us define each of them.

A fact is a verifiable statement about the real world. Let us consider the simplest type of fact: the fact that is immediately verifiable by the listener. If I put four objects on an empty table and then tell another person in the room, "as you can see, there are now four objects on the table", then that person can quickly count the objects themselves and thus verify the statement. Of course, this is just a tiny fraction of the facts one is likely to encounter; most facts are not readily verifiable by the listener, but instead rely on the listener's knowledge that they could verify them if they wanted. If I told you my name, you know you could verify it by demanding to see ID; if I told you how many miles away the Earth is from the Sun, you know you could verify it by looking it up in an astronomy book; if I told you that Nintendo released Super Mario 64 in 1996, you know you could verify it by getting a hold of Nintendo's press releases from that year - which may not be easy, but is definitely possible at least in theory. You know you could do it with enough time and effort. This is what "verifiable" means, as opposed to "verified"; a statement does not need to include a source to be factual as long as the listener knows where to find a source if they want one, or as long as the maker of the statement could explain where to find a source if questioned.

A statement that does include a source plays by slightly different rules. If I say that something is true according to a certain source, I am not making a statement about the truth of the "something", but rather about what the source said. To avoid confusion, let us call the source's statement "Statement A" and my statement "Statement B", that is, my Statement B is "According to a certain source, Statement A is true". Now, whether Statement B is factual does not depend at all on whether Statement A is factual, but rather on my ability to provide proof of my source making Statement A. Here is an example: if I say that according to my acquaintance, Super Mario 64 contains Luigi as a playable character, and if I can produce proof of that person saying it, then my statement is factual even though Luigi is not a playable character in Super Mario 64. In essence, what determines whether a statement is factual is if you can shift the burden of proof to someone else. If you can successfully prove that a source exists that agrees with the statement, your statement is a fact - although whether it is true is a much more complex endeavor, and one that is generally agreed upon as being unsolvable unless one is willing to give up at some point, due to a thought experiment called Münchhausen's trilemma.

Basically, consider that you want to prove some statement to be true. You source the statement... but what about the source? Can you trust it? Why should a statement be true merely because it is sourced? So you dig further, and find a source for the source... but why should you be able to trust that, either? In the end, there are three outcomes, which is why this is called a "trilemma": either a) you give up and accept some source as true, or "axiomatic", for no good reason other than to finally be done with the proof, or b) you require additional sources forever and decide that no statement can be proven to be true at all, or c)

you find a point where the sources start referencing each other, called "circular reasoning". All of them have the following in common: there is no point at which one can logically stop demanding additional sources, and everything that we accept as true rests on the assumption that some things are so obvious, so self-evident, that they don't need proof and are considered true on principle.

Therefore, talking about whether something is true is very difficult, and I will not do it in this discussion, instead focusing only on the definition of "factual" as just outlined. Now that we know what a fact is, let's take a look at opinions.

An opinion is a statement about the speaker's own mind. This is very vague, so let me attempt to clarify: the mind includes thoughts, feelings, emotions, memories, preferences, hopes, fears, and so on; all things that can not be verified, things that can only be given statements on by the person in question, but can never be known for certain unless humanity invents a way to read minds. Opinions can be very clearly recognized by "opinion keywords". If a statement includes phrases like "I think", "I feel", "I hope", "I believe", "To me, it seems", or especially "In my opinion", then it is an opinion. It is curious how by the addition of one of these small phrases, the entire meaning of the statement changes - without them, a statement is generally assumed to be intended to be factual, a statement about the world. With them, it becomes a statement about the speaker.

Consider the difference between "Super Mario Sunshine contains 120 Shine Sprites" and "I seem to remember Super Mario Sunshine containing 120 Shine Sprites". The first one is a statement about the game, the second one is not; rather, it is a statement about the speaker's own memory. Imagine if the statements were false, "Super Mario Sunshine contains 150 Shine Sprites" and "I seem to remember Super Mario Sunshine containing 150 Shine Sprites." Then, the first one would be a failed attempt at a factual statement, while the second would merely reveal that the speaker's memory is faulty. The first one would make the speaker appear untrustworthy; anyone who is willing to make a statement posing as a fact without making sure at least one source could corroborate it is likely to do it in the future, as well. The second one, while showing that the speaker's memory is unreliable, does not paint them as untrustworthy, as they were clear about the statement being merely their opinion. In this case, the listener may note to not rely on the speaker's opinions in the future, but may still rely on their factual statements.

Of course, opinions being by definition unverifiable, they are much less likely to be taken seriously by listeners, especially if they contradict something the listeners themselves believe. If someone were to tell you "I believe that Mario Clash on the Virtual Boy is the best Mario game" (and you are one of the vast majority of people who do not think Mario Clash is the best Mario game), then even if you believed that it is that person's real opinion and not merely a ploy to see your reaction to an unusual statement, you would likely not let that influence your own belief about what the best Mario game is. Why? Because that opinion came without any foundation.

Founded opinions, also known as informed opinions, and which I will call "fact-based opinions", are opinions that, while they still only make a statement about the speaker's mind, are logical conclusions either from facts, or from other fact-based opinions. "Logical" here does not refer necessarily to rigorous mathematical logic, but rather to a broader concept that can be boiled down to "does it make sense to the listener that someone would reach that

conclusion from those premises"? It could be what is generally known as "common sense" or some esoteric train of thought based on vague associations; all that matters is whether the listener would agree that, following that reasoning, the opinion can be reached from the provided facts or other fact-based opinions. As before, here is an example.

Imagine if I told you, "To me, the scariest part of Super Mario Odyssey is the bonus room in the Dark Side level where Mario has to make his way across quickly disappearing asphalt platforms without Cappy", then unless you coincidentally shared this exact opinion, you would likely dismiss it since you would have no context for why I would have it, and no reasoning that you could follow. Now imagine if I explained to you, "What makes this part scary to me is not the gameplay, but the skybox. It depicts New Donk City at night, but unlike the other times in the game when you see it at night, every single light in all the buildings' windows is off. This makes the city appear as though it is abandoned, or perhaps in the middle of a blackout. I have grown up in a city that experienced blackouts frequently, and it is a very dangerous time, as criminals take the opportunity to break into buildings or assault people with a much lower risk of being caught. Even though I now no longer live in such a place, the sight of the city with the lights off brings back the memory of being scared during blackouts as a child, and this is the reason why I believe that room is the scariest place in Super Mario Odyssey." Now, even though you very likely still disagree with my statement, you know why I think this way, and this may make you consider the room, the dark city, and the feeling it evoked in yourself again. In the end, I may have not changed your mind, but I may have made you think about what I said, which could not have happened if I did not provide a fact-based opinion.

The opinions I will provide in this podcast will be given my best effort to be fact-based, and I will attempt to make my train of thought as easy to follow as I can. Still, as I have mentioned before, the fact that there will be opinions means that you will likely disagree with at least some of them regardless of the reasoning behind them, and so I hope that instead of feeling like I am wasting your time, you will instead concentrate only on the facts and hopefully be able to get new insights from those alone.

Finally, let us discuss judgments. To define a judgment is very easy: it is any opinion expressed without an opinion keyword. That is to say, a judgment is an expression of opinion formatted as though it was a fact. Alternatively, we can approach the definition from the opposite side, but arrive at the same conclusion: a judgment is a statement that purports to be a fact, but cannot be verified. When can things not be verified by definition? When they are statements about the speaker's mind, i.e. opinions. The best way to showcase what exactly a judgment looks like is to give triplets of the same general idea expressed as a fact, as an opinion, and as a judgment.

Fact: Super Mario Sunshine has received special praise from reviewers for its portrayal of water.
Opinion: I believe Super Mario Sunshine has beautiful water.
Judgment: Super Mario Sunshine has beautiful water.
The fact is easily verified, as it mentions possible sources. All one has to do it find at least two reviews that give special praise to water in the game and the statement is proven factual (though, as discussed previously, not "true" per se). Note how the judgment is literally just the opinion without the little phrase that informs the listener that this is an opinion. The statement presents itself as a fact, but how can it be verified? Who is the arbiter of beauty? What source could possibly exist that would decide whether something is beatiful or not? The answer, of

course, is that the speaker themselves tries to be that source. The speaker wants to be the judge of beauty, which is why they believe they can express their opinion as though it was a fact - because to them, at least at the moment of speaking, it appears to be a fact. Now, please do not take this as me saying judgments are malicious or in some way reflect a speaker's sense of self-importance. I will explain why judgments are necessary in communication after a few more examples.

Fact: Kersti, the partner character from Paper Mario: Sticker Star, is featured in fewer pieces of publicly accessible fan art than partners from the first two games in the series.
Opinion: I believe that since fewer people seem to want to draw Kersti, fewer people are interested in the character and they likely prefer the partners from earlier Paper Mario games.
Judgment: Kersti is unpopular.
The first statement can be proven by going to sites that feature fan art and making searches for the characters in question, noting the number of results. Of course, arguments can be made about how it's possible that Kersti may be featured in artwork only on sites the verifier did not check, or that it's possible that people making Kersti artwork do not mention or tag Kersti, resulting in her not showing up on search results, but at that point the statement has been verified "beyond reasonable doubt" and the arguments would be challenging it, rather than preventing it from being verified in the first place. Challenging a fact is outside of the scope of today's discussion, so let us just settle on how the fact can be verified at least in theory simply by taking the time to individually look at all publicly available fan art on the Internet, which is of course practically unfeasible, but so is measuring coastlines accurately and we still use measurements for those that have been arbitrarily declared accurate enough. (For more information on that, look up the "Coastline paradox".)
The opinion in this case is a fact-based opinion, where the speaker expresses that the lower amount of artwork may correlate with lower interest in the character. It may not be convincing, but it is grounded in common sense. The judgment, however, presents the opinion as fact, and again, there is no way to verify it - who can decide what constitutes "popular" and "unpopular"? Note that this is a mild form of judgment - as they can be arbitrarily general, it is not uncommon to encounter judgments that do not only present the speaker's opinion as fact, but also as other people's opinion, such as "No one likes Kersti". When a person feels as though they are in a position to make a judgment, it often appears useful to strengthen the message by stating that an unidentified number of other people agree, even though often, no other people are consulted.

Lastly, here is an example of a judgment of a type that appears very often when discussing video games:
Fact: In Chapter 4 of Paper Mario: The Thousand-Year Door, the player must traverse the Twilight Trail, an area consisting of 5 long, narrow rooms, 5 times to complete the chapter - 3 times going one way, 2 times going the opposite way. During this, the enemies on the Trail respawn every time, but do not change.
Opinion: I believe that having to walk a relatively long distance and being forced to fight the same enemies up to 5 times each is not a good use of my time as a video game player. I wish that I was given some variety in environments and challenges during this time instead.
Judgment: Chapter 4 of Paper Mario: The Thousand-Year Door is tedious and repetitive.
I am sure that you have encountered statements of the last kind often if you read video game reviews. While there is certainly some vague notion of what constitutes "tedious" and "repetitive" that is common to most people, it would be far more accurate for the reviewer to say that they have felt tedium and repetitiveness, and explain why, rather than to make a

statement that appears to be a fact when in reality, no one could ever verify it. (Please note that appealing to consensus after making a judgment is not verification - obviously, if a poll is conducted on a statement, it is possible that the majority will agree with it, but in order for a statement to be fact, such a poll must exist before the statement is made, and be either explicitly or implicitly referred to in the statement. In short, saying "according to consensus, people like X" is factual if the consensus has been recorded somewhere, while saying "people like X" and then appealing to consensus that has not been recorded yet when questioned is not factual even if it does turn out to be consensus in the end. The reason is simple: by making statements like "people like X", people may be influenced to believe that X is popular, causing consensus to shift before it is formally recorded.)

All of this raises the question: why do people make judgments? The idea behind judgments is that they are an expression of authority, and authority has always been an important aspect of society. One of the most fundamental tenets of society is the distribution of duties - ever since the first primitive societies, roles have been distributed to people based on how well they were likely to perform them. Those with great endurance became hunters, those with keen eyesight became gatherers. Over time, the concept of distribution of duties led to something that is the basis of today's society: specialization. People have professions, and if you have a profession, it is assumed you are qualified for it, i.e. you have the skills, knowledge and other attributes to do it well - or at least better than people outside that profession, otherwise society has failed at giving you the correct profession. This leads to the idea of authority - if you specialize in something, then that means that your opinions on that subject are much better informed - much more fact-based - than the opinions of someone outside that field. In fact, society often assumes that if you are qualified enough, then your opinion is as good as a fact - that you are qualified to create facts - that you have the authority to make judgments.

Many types of judgments are necessary for society to function properly. When you see a doctor, the doctor makes a judgment based on your symptoms over what your ailment could be, and what the best way to proceed with treatment is. While it would definitely be possible for the doctor to frame the diagnosis as a fact-based opinion, the truth is that this is not practical due to time constraints, and also due to many people simply not being interested in the actual reasoning behind the diagnosis. If you are in a hurry, or in pain, you just want the expert to make a decision and start taking steps towards solving the problem. The same applies to experts in other fields. While many people may be curious about how expert decisions are made, the majority are too busy with their own lives and simply want the expert to take care of the problem; thus, the experts are expected, if not outright required, to present their opinions as judgments.

In addition to this type, there is also each person's private beliefs about what they are an authority on. It might be that they have a great interest in a topic, leading to doing research into it and having a reasonable belief that they know more about it than the average person, thus being an authority on it. It might be that due to life experience, they believe they have had more exposure to a situation and are qualified to make judgments when those who have had less or no exposure can not (such as e.g. being a parent, running a business, going on diets etc.) For every manner of reasoning, people believe they are an authority on a subject, and if someone believes that, they are much more likely to frame their statements on that subject as judgments rather than opinions.

Finally, there is the type of judgment that is simply a result of human nature, and of our minds

being largely governed by emotions. No matter how much value you put on humility, neutrality, reason and other qualities that would cause you to hold back from making judgments, from time to time, emotions become too strong and statements that would normally be carefully phrased start coming out much more carelessly, which usually means that opinions become judgments rather quickly. A person in a calm state of mind may say "I don't trust that person", while if they are upset the same sentiment becomes "That person can't be trusted", which, as a judgment, is a much harsher statement. I would like to once again note that while it may seem that due to me discussing all of this in a rather detached manner, it may appear that I think that I am somehow above it all or that I am immune to becoming judgmental, I do not in any way believe that. I am just as judgmental as anyone else, and I hope that you understand that just because I try not to make judgments in my work published online, it does not mean that I somehow have any negative opinion on judgments as a concept, or on people who like to make them.

Now, after this rather long and hopefully not too tedious explanation of the concept, it is time to start talking about Super Mario World. At first, when I wrote this script, I was determined to very clearly delineate facts and opinions by literally prefacing every statement with the words "fact" or "opinion". As you can probably guess, this resulted in an amount of repetition that would quickly become distracting. Therefore, I must refer you to the definitions of fact and opinion that I discussed to discern between them. If a sentence I say contains opinion keywords, it is an opinion, otherwise, it is a fact. I have done my best to make every statement without opinion keywords verifiable to minimize the occurrence of judgments. Still, in some segments where I quickly alternate between facts and opinions I will still announce each for extra clarity.

Let us begin.

Super Mario World is a platformer game where Mario ventures to a place called Dinosaur Land, where he meets a new friend called Yoshi. Note that Luigi is also present in 2-player mode, although due to this podcast being about single-player mode, Luigi is not relevant to the discussion and will not be mentioned from now on. Mario travels across 9 areas of Dinosaur Land (two of them potentially being outside of Dinosaur Land, but this is not made clear in any official material) until he reaches Bowser's castle, which is in a cave under the seafloor, where Princess Peach is held captive, to rescue her. On his way, he also rescues Yoshi's friends, who have been captured by Bowser and imprisoned in eggs. There are 75 levels with 96 exits that count towards the game's completion, taking place in a variety of environments and filled with a variety of enemies and obstacles.

I believe that despite being a spectacular game, some of the design decisions regarding the environments, enemies, characters, and all other aspects of what is commonly known as "worldbuilding" in the game have been met in a slightly suboptimal manner. That is not to say that I believe any of them were wrong, or bad - only that with some changes, I feel they could have been made even better. I will use what I believe is the main rule of fair critique - "never demand more effort". Obviously, more effort would make almost every project better - that's the definition of effort - but I am going to never stray from the assumption that whatever effort went into the game was the maximum the team had to spare. Thus, whenever I suggest a hypothetical change, I will always make sure that it would not have required any additional effort from the staff. In particular, I will not suggest that new assets could be created without pointing out others that could be discarded, to preserve the total amount of work necessary.

I will go through the entirety of the game and offer my thoughts and suggestions on what could be changed to create slight improvements to the feeling of place created by the game. And what better place to start than the title screen? The title screen features demo footage of the game, which plays through a short portion of a level before restarting while the title music plays. This by itself is not new for the series; Super Mario Bros. also had demo footage that started if the title screen was not interacted with for a few seconds, where Mario would continue off the title screen area, which is revealed to be the beginning of the first level, and attempt to get through the rest of the level. However, there are two key differences here. First, unlike Super Mario Bros., Mario does not die at the end of the demo footage, it simply restarts seemingly for no reason in the middle of the level. Second, the level showcased in the Super Mario World title screen is not in fact the first level of the game, or anywhere near the beginning of the game - it is the level named "Groovy", the fifth of the eight Special Zone levels. It is not only an optional level that requires the player to find several hidden exits to see, but also the fourth-to-last level in the game.

I believe that while it is a very interesting and unique decision to have the demo showcase a secret, late-game level, there are a few things that add up to a situation that may be confusing to players - and from my personal experience reading video game forum posts about this - has in fact confused many players. First off, there is the fact that the level uses the foreground tileset of Yoshi's Island 1, the game's first level, with the background of Yoshi's Island 3 (only slightly palette-shifted in the sky section), which is another early-game level. Thus, I think it appears to a player who does not know about the existence of the Special Zone that the demo level is an early-game level; especially since it also depicts only enemies the player would encounter in the early game, as well. I remember reading accounts from players who have tried finding the demo level by searching for hidden exits in the first two areas of the world map, and being confused when they could not find it. There is also the general feeling of the demo level, it seems to me to be build specifically to record the demo footage in, i.e. it contains exactly the elements needed for the demo version of Mario to showcase the mechanics in the demo.

An argument can be made that hiding the demo level so late in the game is a reward for those who undertake the effort to get that far; at that point, presumably the player would have given up on expecting to see the demo level, but the surprise appearance of it may be rewarding to the player. I believe that the disadvantages of this outweigh the benefits; I personally, while being pleasantly surprised the first time I found the level, quickly began thinking of how this is really depriving the player of a challenging level that could have been included instead. The Special Zone is the game's last chance to offer a challenge to the player, and putting the demo level - the difficulty of which I would not call particularly high - in the Special Zone means that only 7 of the levels therein can fully live up to the potential of the challenge a secret final world can contain.

Now, up until this point I have not mentioned that the demo section is only the first half of the level. The second section consists mainly of Pokeys on almost flat ground that can be easily dispatched using Yoshi, who can be found in the beginning of the level, and a slightly challenging section featuring Volcano Lotuses. Here is my hypothetical: leave the demo as it is, but move the actual demo level to Yoshi's Island 2. Remove half of the Pokeys and all of the Volcano Lotuses to bring the challenge down to something that can be expected of one of the very first levels in the game, and to conserve effort, move what is Yoshi's Island 2 in the

game to Groovy, but populate the level with about 30-40 additional Chargin' Chucks for challenge. This would take care of all the issues I have discussed, at the cost of not getting the late-game reveal of the demo level. This is a trade-off that may not be worth it in the eyes of those who really enjoyed that moment of discovery, so this is not a hypothetical that I would say results in a net improvement, all I can offer here is addressing certain issues while creating new ones.

When the game is started, the intro screen is displayed. The intro is very brief, only lasting 15 real-time seconds before a button can be pressed to enter the map screen. It consists of Mario standing in an area using the background from the Yoshi's House level, without the house actually present. Instead, the foreground is simply flat with two bushes which are growing three berries total, one of each color found in the game. A message appears while a special intro music track plays. The message reads: "Welcome! This is Dinosaur Land. In this strange land we find that Princess Toadstool is missing again! Looks like Bowser is at it again!" When the music track ends, any button exits the screen and takes Mario to Yoshi's House in the Yoshi's Island overworld map.

While repeat players and especially speedrunners of the game are undoubtedly grateful for such a brief and minimalistic intro that lets them enter the first level less than half a minute after turning on the console, I would like to ask you to imagine yourself in the shoes of someone playing the game for the first time - or better yet, someone who has never played a Mario game before. The intro is, in my opinion, one of the most blatant violations of the well-known "show, don't tell" rule I have personally encountered; in addition, I believe the message boxes are not programmed to make reading them comfortable. For an unknown reason, the text inside the boxes auto-formats so that the first letter of the first word in a line is aligned with the left edge, and the last letter of the last word in that line is aligned with the right edge. This is called "justification" in typesetting, but it is usually used under two conditions: the letters must be able to have the width of the empty space between them adjusted (this is called "tracking", not to be confused with "kerning", which is adjusting the space between two specific letters; tracking refers to uniformly adjusting the spaces between all letters), and usually there are safeguards in place against the algorithm trying to apply justification to a line that does not have enough characters in it, as that would result in a very unappealing stretch effect. Super Mario World fulfills neither condition: the letters do not have tracking; all letters fit within 8x8 tiles on a grid, and are written in successive grid cells; and the algorithm does not care about not having enough characters in a line. So, if there is no tracking, how does the algorithm apply justification? Simple, it increases the amount of spaces between each word. In the intro, one line reads "we [four spaces] find [four spaces] that". This makes the text, in my opinion, much more difficult to read than necessary, and could be fixed simply by not justifying the text.

Of course, this still leaves the problem of the text not only assuming that all players have played either Super Mario Bros. or Super Mario Bros. 3 before (imagine for a moment the confusion of someone who had only played Super Mario Bros. 2 at the text in the intro), but also being in violation of "show, don't tell". Here is my proposed solution: recall the sprites used in the final boss battle in the game. Bowser is sitting in his Koopa Clown Car, and between phases of the fight, Peach appears from inside the clown car while shouting "Help!". Imagine if the intro screen showed these two sprites, without the Koopa Clown Car, but simply cropped and not moving, alongside the message. This would give a clear visual to what the text is describing. The princess is in distress, this big turtle is the Bowser the message is

talking about, this would make the entire situation much more understandable to anyone who had not played previous games in the series. Now, experts on Super Mario World coding may say, "This would be extra effort! The code in the game does not allow sprites to be displayed inside text boxes, unlike games like Yoshi's Island." To this I say, if it is truly too much effort to add that functionality for the sake of the intro, they could have simply added another scene after the intro - no more than 3 seconds long - of Peach performing her animation of calling for help on a black screen, then disappearing down the Koopa Clown Car (which is colored black or not rendered for the sake of not being spoiled) while Bowser appears. If this sounds familiar to you, that is because part of the Super Mario RPG intro used similar imagery to what I believe is a much greater effect than a simple text message.

Entering Yoshi's House brings Mario to a single-screen playable area that contains no enemies and has no time limit, presumably made so that players may familiarize themselves with the controls in a safe environment. The house itself does not look like anything that would be traditionally described as a "house"; it is merely three tree trunks and a chimney, joined by a large canopy with 10 berries growing on it. Next to this construct, there is a mailbox and a sign reading "Yoshi". Finally, there is a message box in the middle of the screen saying "Hello! Sorry I'm not home, but I have gone to rescue my friends who were captured by Bowser." which is signed "Yoshi". Curiously, next to Yoshi's name in the text box, there is a hand print that is either his left hand with five fingers - if each finger is represented by a single 2x2 pixel square, with the two leftmost ones overlapping by one pixel - or his right hand at a 45 degree angle with four fingers, if the overlapping squares are taken to be the thumb. As handprints are usually not left at odd angles, I tend to believe that it is his left hand with five fingers. This, however, contradicts official artwork of Yoshi, who has always been depicted with four fingers on each hand. (Note that due to different English-speaking regions counting fingers differently, I would like to clarify that by four fingers I mean four total digits on each hand, counting the thumb.)

Yoshi's house has become somewhat iconic in the series, with Yoshi's Island cementing its usage by having a copy of it located in every regular level after the goal ring. The only game that in any way attempted to make more sense out of the design instead of reusing it "verbatim" is Mario & Luigi: Partners in Time, where the houses are shown from a bird's eye view and it is revealed that in addition to the four tree trunks we see in the usual depictions of the house from the side, there are four more tree trunks in the back, lining up with the ones seen from the front so they are not visible in the regular depiction. The eight trunks together create a canopy that covers some area instead of what appears to be only a narrow strip in the Super Mario World version, which would at least count as some kind of shelter in the rain. Super Mario Odyssey, the latest depiction of the house, deconstructs the concept even more than the original and has the "house" consist entirely out of a free-standing chimney adjacent to a few trees. No matter how bizarre the house is upon closer inspection, I would not think of changing it simply because the design is very deliberate and iconic.

After leaving Yoshi's House, the path available to Mario splits into two. The left path leads to Yoshi's Island 1, while the right path leads to Yoshi's Island 2. To me, giving a decision like this to the player at the beginning of the game seems to be introducing the concept that in this adventure, there will be many more split paths along the way. While split paths on map screens existed in Mario games already since Super Mario Bros. 3, where as early as after completing the second level in the first world, Mario is given the choice between going to Level 3, Level 4 or the fortress level, the fact is that Super Mario World places such a focus

on this feature that to this day, the map screens of Super Mario World have the highest amount of secret exits resulting in split paths out of any Mario game. The best example that showcases this is the famous "fastest way to beat the game": a sequence that requires the player to find 7 secret exits in a row that ends in creating a direct path to the final level. The player must find the secret exits in Donut Plains 1, Donut Secret 1, Donut Secret House, and Star Worlds 1 through 4 in a row to reach the Star Road taking them to the Front Door of Bowser's castle.

I also find it commendable on part of the game's designers to have laid out the area of Yoshi's Island in such a way that the path leading to a dead end is on the left, while the path continuing with the game is on the right. This way, players who want to explore everything going left to right, as they may be used to from previous Mario games (or video games in general), will be able to see every level without having to stop their journey and backtrack later on. What I find less commendable, however, is how the path on the left does not make use of the biggest apparent point of interest on the Yoshi's Island map screen. But more on this in a moment after we talk about Yoshi's Island 1.

Yoshi's Island 1, the first level in the game, uses a background consisting of tall, blue spotted hills, and is in my opinion generally the background associated most closely with the game. The spotted hills are a stylistic evolution of the similarly-shaped, but not spotted, hills from the background of World 1 stages in Super Mario Bros. 3, those either had eyes or were filled with a triangle pattern. The spotted hills made a big comeback in Super Mario Galaxy 2, and since then were used in a wide variety of Mario games produced this decade - although the modern spotted hills come in more than one color. Note that the player already had seen the background in the intro and in Yoshi's House by the time they reach Yoshi's Island 1, but it was more or less blocked from view by the intro message and the house itself, respectively. The hill background introduces something that had never appeared in the Mario series prior - vertical cutoff, i.e. the background is taller than the screen, resulting in the top of it not being visible when Mario is standing on ground level. In the case of the hills, this means that the tallest hills stretch upward so far as to go off-screen, which in my opinion creates a sense of grandeur. Please keep in mind that a simplistic effect like keeping part of the background off-screen would not likely evoke such feelings - or in fact, any feelings - in modern players, this was genuinely new for Mario games at the time.

The level also allows the player a better look at the foreground tileset - yellow or light brown soil topped with a thin strip of green grass on all surfaces that Mario can walk on. Now, I would like to ask you to participate in a thought experiment. Imagine a level using the Yoshi's Island 1 tileset in 3D. Imagine what Mario would see from first-person view when he walks upon such a level. Obviously, he would not be able to see inside the ground, and instead see only the surface, which is grass. Thus, the level would appear mostly green, as the ground would be covered in grass and the grass would be the only visible part of the ground. (If you do not wish to imagine, simply look at the Yoshi's Island map screen in the game - note how it, too, depicts the same colored grass and soil, but due to being in overhead perspective, appears almost entirely green.) Now compare this to how it looks in the 2D view employed by Super Mario World. When Mario begins the level, he stands on what is the standard "ground height" for Mario games; roughly 2 times the size of Small Mario off the bottom of the screen. Only a width of 2 to 4 pixels of the area below him is green (the grass has a wavy shape), the rest is light brown soil. Roughly 1/6th of the screen is light brown soil. While it may be argued that this creates a vibrant contrast - the soil, the grass and the blue hills are all very different

colors, after all - this is not taking into account the fact that the light brown soil is used for what is in my opinion entirely too many of the game's levels. 24 of them feature at least one area with this soil - that is almost exactly one third of the game's level count. And it taking up 1/6th of the screen is the mildest example, as it only holds true as long as there are no additional platforms for Mario to stand on. In areas where the ground is raised, and especially where semi-solid platforms (this is actually the official name for platforms that are part of the background and can be jumped through from below, as confirmed by Super Mario Maker) populate the background, the area of the screen filled with light brown soil easily passes 50%.

My proposed change here would be to introduce more palette swaps of the soil - it should not take too much effort to simply change the colors without redrawing anything - and perhaps, and many may disagree with this, try to make the soil match the color of the grass slightly more in some of the levels. You may say that this makes no sense, after all, soil is almost always a shade of brown and almost never a shade of green - and I agree that it would be far less realistic, although Mario being a very cartoonish franchise that routinely depicts talking animals and magically floating objects, aspirations of realism can be argued to be misplaced. Instead of arguing whether it is better to attempt to realistically portray soil or to give more priority to color matching, I will refer you to the second level of Super Mario Bros. 3, where the entire ground is green, including the soil. That level is one of the iconic levels of the franchise due to its introduction of slopes; and I believe that the green soil does not produce an unnatural effect there at all. I feel that experimenting with different soil palettes would be advantageous for games in the style that Super Mario World uses. Finally, I would like to point out that from the beginning of the Super Mario Bros. series, Japanese official materials have referred to Mario's world as a "fantastic world". I think a world described by its creators as "fantastic" should not give too much importance to consistent use of realistic soil colors, although of course this is very subjective.

Yoshi's Island 1 introduces a few enemies new to the franchise. From the beginning of the level, the first enemy Mario encounters is a Beach Koopa, which is the official, but rarely-used name for Koopas without a shell. Beach Koopas come in two varieties, weak and strong. The weak ones will hop into any empty shell they find and become regular Koopa Troopas, but will be defeated if a shell is thrown at them, while the strong ones will stop the shell and launch it back at Mario instead. The entire rather complex relationship between the four colors of Koopa Troopas, the four colors and two kinds of Beach Koopas, the way a stomped Koopa Troopa separates into two objects - the shell and the Beach Koopa, and special cases like a yellow Beach Koopa hopping into a yellow shell creating a unique enemy called a Flashing Shell (also known as a Kamikaze Koopa) is intended to show off how much more advanced the game's AI is compared to previous games in the series, and how there is much more strategy involved in combatting these new enemies. I myself admire the decision to expand on the abilities of Koopa Troopas in this manner and do not have any suggestions on how it could be improved as I see no issues with it, outside of perhaps problems that may arise when a colorblind player is forced to make a decision that would be helped by knowing a Koopa Troopa's color, but is unable to tell the green ones apart from the red ones. This type of problem, however, is endemic to almost all video games, and while the accommodation of colorblind players has taken forward strides in recent years especially within the field of puzzle games, the vast majority of video games do not offer any special help to those affected. Even now, games like Mario Kart, where it may be an important decision to know whether a Koopa shell is green or red, have no distinguishing characteristics between the objects other than their color - if I were to tasked with remedying this, I would put spots on the

red shell and rings on the green shell, as both already have precedent within the series - Pom Pom has a red shell with spots, and Lakitus have a green shell with rings - but I am certain someone who is an expert on color blindness could come up with a more elegant solution.

Another new enemy introduced in Yoshi's Island 1 is the Banzai Bill, a gigantic Bullet Bill with a menacing smile, but no arms. In contrast to regular Bullet Bills, which are the size of Small Mario, the Banzai Bill is 4 times taller and 5 times longer than Small Mario. I believe that the sudden appearance of the Banzai Bill in the first level of the game is intended to show off the SNES's ability to deal with very large sprites. The Banzai Bill is literally too big for the NES to draw without flickering if it is supposed to be moving against a background that may be scrolling at a different rate than itself; even though NES games with large moving objects exist, these are always a trick whereby the object is actually the background, and their "movement" is really scrolling - which is why these tended to appear against a flat color backdrop. The SNES, however, manages the Banzai Bill with ease, likely impressing the viewer at the time. I, however, have a rather big issue with the Banzai Bill, and that is that for an object introduced so early in the game and which is (or at least was at the time) so visually impressive, it is used entirely too rarely. Consider the three levels in which it is used: Yoshi's Island 1, the first level in the game, Valley of Bowser 3, the fourth-to-last level in the game's story, and Awesome, a level in the optional Special Zone. This means that the average player who only plays the game's story and does not discover the Special Zone would meet Banzai Bills a total of twice throughout the adventure, once at the very beginning and once towards the end. I ask you, do you believe this is a good use of this impressive enemy? As the lack of visual glitches in Yoshi's Island 1 shows, Banzai Bills are perfectly capable of being on screen together with other enemies, so this cannot be due to technical limitations that would prevent them to be added to later levels without having to dedicate a special part of the level to them. It almost seems to me like the developers forgot about Banzai Bills during most of the level design process, or perhaps the Banzai Bills were added so late in development that it was unfeasible to add them to already finished levels - although the last scenario is unlikely due to very early beta screens existing that show Banzai Bills with a different, mouth-less design. So they existed in the code for at least long enough to be first drawn in one style and then redesigned; but somehow were not considered to be put in more levels.

I believe that a change that would let the game get the best value out of Banzai Bills for the least amount of effort is the following: pick around 10 levels from across the game, at least one in each of the 9 areas. Then, add exactly one Banzai Bill to a random section in each of them. This would lead to the player being periodically reminded of the fact that Banzai Bills exist by making them into a small recurring surprise - just by the time the player had no longer encountered any Banzai Bills in the last, say, 5 levels, a Banzai Bill flies into the player after activating a midpoint tape in the next. There is the potential here for creating a memorable experience once the player notices the pattern and perhaps tries to guess which of the next few levels they will again encounter a Banzai Bill in. This is of course only one way to get value out of the enemy - with more time and effort, one of the athletic levels in the middle of the game, such as Butter Bridge 1 or 2 could be altered to be focused on avoiding a barrage of Banzai Bills and give them a spot where they actually present a challenge - as their appearance in Yoshi's Island 1 makes them as easy to avoid as possible due to being the first level.

Finally, in addition to Jumping Piranha Plants, which are simply an evolution of the long-standing Piranha Plant concept to increase reach and also provide another way to evading

them by going underneath rather than over them, the last enemy to be introduced in Yoshi's Island 1 is the Rex - and the Rex is the gateway to the biggest issue with the game I want to discuss in this podcast, and one that I will be coming back to several times. You see, the Rex is a dinosaur enemy - not a very complex one, but simply a purple dinosaur the size of Super Mario that takes two jumps on the head to defeat, shrinking to half its size after one hit (presumably to mirror Super Mario shrinking to Small Mario after one hit), but otherwise having no AI other than continuing to walk forward in the manner of green Koopa Troopas. What is important here is not how it behaves, but what it represents. The Rex is the first element of the game that refers to the name of the location it takes place in - Dinosaur Land.

Now, before I start delving into the implications of the name "Dinosaur Land", I must ask you something. I know that if you are listening to this, you are likely to be a big fan of Mario, and as a big fan of Mario, you have likely seen the Super Mario World cartoon series. Even if you have not watched any episode of it in full, Internet culture has turned the final episode, "Mama Luigi", into a running joke to the point that even people not familiar with the series have seen clips or segments of it. If you remember the cartoon, you may remember that it contained a large number of different species of dinosaurs, as well as backgrounds befitting a prehistoric environment, and cave people (which of course, in the history of our world had nothing to do with dinosaurs, but very often appear alongside them in fiction, especially more light-hearted fiction such as family-friendly video games or cartoons). I must ask you to please not consider any of the cartoon when listening to my discussion of the game, as it contains mostly original content made by DiC Entertainment after obtaining the rights from Nintendo of America, where the people responsible had no connection to the original developers of Super Mario World at Nintendo of Japan. In fact, according to my recollection of reports I read, very few people in Japan even know of the existence of the cartoon, and the development team was not asked permission for a cartoon to be created. Thus, I ask you to decouple the cartoon from the game in your mind, at least for the purpose of this discussion, and concentrate only on material published by Nintendo themselves. In other words, it is easy to say "Super Mario World had plenty of dinosaurs and dinosaur theming" if you conflate the cartoon with the game, but if you look closely at only official material, you will see that quite the opposite turns out to be the case.

I would like to present the following opinion: Dinosaur Land is not nearly as dinosaur-themed as the name should indicate. Whether this is due to the developers first deciding on the name and then neglecting to elaborate on the theme, or whether it is due to the theme being slightly present before the name was decided and then the name being proposes based on that, I do not know - although I believe the second may be slightly more likely since in very early beta screenshots of the map screen and title screen, the island Mario is on is shaped like a Super Mushroom. While it is of course not impossible for a landmass in a Mario game to be shaped like one thing and be named after another - for example, Giant Land in Super Mario Bros.3 is shaped like a Koopa, but isn't called Koopa Land, and the final design of Dinosaur Land does not really have a shape resembling anything specific, I think that the mushroom shape and the fact that so many of the game's enemies and environments have nothing to do with dinosaurs could indicate that perhaps the game was intended to take place in the Mushroom Kingdom first. Compare this to the shape of the Mushroom Kingdom in Super Mario Odyssey, where it is also a mushroom-shaped island. This is, of course, all complete speculation, but I believe that perhaps during some point in development the name Dinosaur Land was chosen to tie it in with Yoshi, who is a dinosaur, and some of the enemies in the game.

Note that Yoshi has, on occasion, been called a dragon, and the large coins in Super Mario World itself that depict Yoshi are called Dragon Coins. Notably, Yoshi describes himself as a dragon in the Japanese version of Super Mario World, the message box in Yoshi's House is signed "Super Dragon Yoshi". This is later referenced by Yoshi's Final Smash in the Super Smash Bros. series being called "Super Dragon" and a secret message from Yoshi next to his house in the Sky Station Galaxy being signed "Yoshi the space dragon". However, Yoshi is called a dinosaur by all guides and manuals for Super Mario World, including the Japanese one. This leaves two possibilities: either the discrepancy simply went undetected and Yoshi was intended to be a dragon first and then later changed into a dinosaur, or he could simply be calling himself a dragon without being one, as a way to make himself seem tougher or for any other reason. At any rate, the wealth of inconsistencies within not just the franchise, but Super Mario World in isolation makes this matter very confusing. The English manual also on one occasion refers to Dinosaur Land as "the land of dragons", and to some of the dinosaur-like enemies as "dragons", but as we will see later, the English manual did not seem to have been through a rigorous editing process, and in opinion, is not entirely trustworthy.

Still, in order to move past this, let us assume that for the purposes of the world inside the game, "dragon" is a synonym for "dinosaur", or perhaps a word that means "dinosaur capable of spitting fire". What matters is that the developers decided to call the area the game takes place in "Dinosaur Land", which is the same in all regions, and that the dinosaur-themed characters and enemies look more like dinosaurs than dragons (although some, like Rex, have minor dragon elements, and others spit fire).

To see how much Dinosaur Land is dinosaur-themed, let us count how many of the characters in the game are dinosaurs. There are no friendly characters in Super Mario World outside of Yoshi and Dolphins, although in the Japanese version, Yoshi can eat Dolphins, meaning they could simply be enemies that cannot directly harm Mario and act mostly as platforms. Note that Dolphins can result in Mario losing a life, by picking him up from a platform and jumping in such a way that he touches a Porcupuffer - if you doubt that this can be called "enemy behaviour", consider Bumpties from Yoshi's Island, which are penguins that do not harm Yoshi when they touch him, but can result in losing a life by bumping him off a platform, which is why they are considered enemies. So, Yoshi comprises either half or all of the friendly characters native to Dinosaur Land, which is very dinosaur-themed so far.

With enemies, however, it is a completely different story. There are 67 different kinds of enemies in the game, which is not counting things that can be debated to be obstacles instead of enemies, like Bullet Bill Blasters, Grinders, Chainsaws, Floating Mines, etc. If those are counted as well, there are 80 of them. Out of these, only five are dinosaurs or similar to dinosaurs: Rexes, Eeries, Dino Torches, Dino Rhinos and Blarggs. Now you may say, "just because there are few different types does not mean they are not frequent, Goombas were the only 'evil mushroom' enemy in the original Super Mario Bros. and yet they appeared so often that one of the things the game is remembered for is having evil mushroom enemies." I agree with that, the low number of different dinosaurs does in no way indicate how often the player will encounter them, which is why we will now look at how many of the game's levels contain at least one dinosaur enemy.

(A quick note: there is also a dinosaur boss, Reznor, which is again only one boss out of the game's 10; admittedly, Reznor appears more than once while the other 9 bosses only appear once each. I will count Reznor as well, but separately from the regular dinosaur-type

enemies.)

Rexes can be found in three levels: Yoshi's Island 1, Chocolate Island 2, and Awesome (note that they share an appearance with Banzai Bills in two of these levels, which I will return to later).
Eeries can be found in five levels: Donut Secret House, Vanilla Ghost House, Forest Ghost House, Choco-Ghost House and Valley Ghost House.
Blarggs can be found in three levels: Vanilla Dome 1, Vanilla Dome 3 and Chocolate Secret. Note that in Vanilla Dome 1, they appear only in a bonus side area, and in Chocolate Secret, only one Blargg appears in the beginning of the level.
Dino-Rhinos and Dino Torches both appear in exactly two levels, Chocolate Island 1 and Chocolate Island 2.
Finally, Reznor appears in Vanilla Fortress, Forest Fortress, Chocolate Fortress and Valley Fortress.
Thus, out of 75 levels, dinosaur-themed enemies appear in 11 of them, 2 of which have very minor appearances by these enemies. Also, out of 13 levels with bosses, four of them have a dinosaur-themed boss. We can also say that out of 75 levels, 15 have an appearance by any dinosaur adversary of any kind.

That is precisely one-fifth. Note that, as I explained, this does not mean one-fifth of the game is spent battling dinosaurs, it merely means that only one-fifth of the game's levels contain even a chance of seeing a dinosaur, and great swaths of those levels are still inhabited by other, non-dinosaur enemies. Here is another statistic: on average, for each appearance of a dinosaur enemy within one of those levels, there are on average three non-dinosaur enemies in the same level; meaning that even in places where dinosaurs are present, they are still massively outnumbered by non-dinosaurs.

I hope that my point is coming across as clearly as possible here: character-wise, a place like Dinosaur Land should, in my opinion, contain a much larger number of dinosaurs to justify its own naming. Quick aside here: you may bring up examples of an area being nominally dinosaur-themed in another Mario game while only containing one dinosaur: Fossil Falls in Super Mario Odyssey. And yes, it is true that the area presents itself as dinosaur-themed, even being shaped like a dinosaur head on the world map, while containing only one alive dinosaur, the sleeping T. rex. Still, what it lacks in characters it makes up in scenery, as the area is filled with fossilized remains of dinosaurs, most prominently the giant triceratops skeleton from which a waterfall is flowing, after which the area is named. And it is exactly the scenery that we will be analyzing next.

There are, in my opinion, two ways in which an environment can be said to be "dinosaur-themed": it can be prehistory-themed or paleontology-themed. The first one requires that the environment looks like what science imagines Earth's prehistoric periods to look like, especially the times during which dinosaurs were supposed to roam the Earth - although as mentioned before, cartoons and other cartoon-like fiction often make no distinction between prehistory during the age of the dinosaurs and prehistory during the age of early man; resulting in both types of environments being interchangeable, or often combined in a fictional environment containing elements of both. The second type is what Fossil Falls is: an environment focused on the fact that fossils of dinosaurs can be found there. It does not have to be a type of environment that itself could have been found during prehistory; in fact, it is often a modern-day environment in which fossils have recently been unearthed. Since

Dinosaur Land, at least in my opinion, cannot carry the name by virtue of its inhabitants alone, it should justify the name either by containing fossils of dinosaurs or containing environments associated with prehistory.

Super Mario World contains no graphics that could be clearly said to depict dinosaur fossils. While giant bones appear in isolated locations in cave levels, they are simply large cartoon bones - the ones based on a simplified depiction of the human femur - that do not build any type of structures like even partial skeletons. There are also skulls, appearing as a part of moving platforms called Lava Lifts (or Skull Rafts as known from the famous Super Mario World cartoon episode "Mama Luigi"), but they also do not seem to correspond with any type of typical cartoon dinosaur or any of the dinosaurs found in-game, as they look most like human skulls without a nose hole. Note that even though these assets exist, they are used much less frequently than a paleontology-themed environment would try to use them if the designers were trying to convey that theme... at least that's what I think.

Now, let us consider the possibility of Dinosaur Land instead being prehistory-themed. What do you most associate with prehistoric environments? Keep in mind that we are looking at the cartoon version of prehistory that mixes together the age of the dinosaurs and the age of early humans. Here is what I think of: volcanoes, jungles, swamps, and caves with cave paintings. Think of all the cartoon content you know that presents itself as taking part during prehistory. I believe it is very likely that it will feature at least one of these environments prominently. There is also a high chance of some environments being presented as very rocky, consisting of a stone floor, giant boulders and mountains with little to no vegetation in the background.

None of these appear in Super Mario World in such a way as to be identifiable with confidence as examples of these stereotypes. There are no volcanoes; while lava levels inside caves exist, the cave worlds themselves are clearly shown to not be chiefly volcano-themed, but merely happen to contain lava levels. The Vanilla Dome area is shown to contain a large underground lake situated below the area where the lava is, which is not typical of the portrayal of volcanoes in media, where the lower levels are almost always - at least to my knowledge - depicted as hotter and more lava-filled due in no small part to this being also the way volcanoes work in real life. The other cave contains an ice level on the same map screen as a level with lava, which is again highly unusual for volcanoes. In addition, nowhere in the game's map screens does any geological structure look like a volcano, with either visible smoke, visible lava, or even the classical "mountain with a hole in the top" shape (although there are mountains with lakes on top of them, which in real life are often inactive volcanoes, but the type of volcano associated with prehistory are usually the active ones).

There are also no jungles, with the closest thing to a jungle being the Forest of Illusion, the trees in which are cartoon versions of trees found in forests in temperate climates. There is no jungle vegetation to be found anywhere in Dinosaur Land that is not tied to enemies already preestablished in the universe - everything that could be argued to be based on jungle plants is related to Piranha Plants - being the enemies themselves and the vines they create - which have been established parts of the Mario franchise since Super Mario Bros. Even merely tropical vegetation, which can stand it for jungle vegetation, is absent - there is not so much as a single palm tree in Super Mario World. In fact, Subcon, the location where Super Mario Bros. 2 takes place, would have a much easier time counting as a jungle or as a prehistoric-themed area (even the original version without the detailed Super Mario All-Stars backgrounds).

Swamps are completely absent from the game, with nothing even coming close to counting as a swamp. Finally, even though the game features many cave levels, none of them feature any cave paintings. Now, the argument here is "Well, there are a lot of cave levels, as you said. Caves are closely tied with prehistory; so they should all count!" I will count it in the game's favor to have a higher concentration of cave levels in the game than previous Mario titles, but please keep in mind that none of the caves in this game (except Vanilla Dome 4, which for an unknown reason features a starry sky background) have any themes different from caves in previous and subsequent Mario games, which lay no claim to being prehistory-themed.

All in all, looking at Dinosaur Land, we can see a place where only a fifth of the locations contain any amount of any type of dinosaur, and the only thing making the environment even slightly dinosaur-themed is the fact that there are relatively more caves in this game than in other 2D Mario platformers - and even then, this only counts if we accept the connection between cave people and dinosaurs, as actual dinosaurs are not associated with caves - which is spurious because unlike in the cartoon, the game does not contain any cave people at all. I hope that even if you don't agree with my conclusion that the name is a poor fit for the world of the game, you can at least see the reasoning.

The big question now is: can this be fixed without spending too much effort? Most of the situation hinges on a lack of assets, and producing new assets is always an effort, so I do not believe that the development team should have gone out of their way to make the environments more dinosaur-themed if this would have in any way reduced the time spent crafting the superb gameplay. However, one part of the problem can be remedied - the lack of presence by dinosaur enemies - relatively easily by putting Rexes, Dino Rhinos and Dino Torches in more levels. Eeries and Blarggs are tied by their nature as ghosts and lava-dwellers to very specific levels, most of which they already appear in, but Rexes, Dino Rhinos and Dino Torches are, in my opinion, severely underused.

As the Rex is, from a gameplay perspective, the same as a Goomba with twice the height that takes two hits instead of one, they could be used in many situations where other games in the series would have placed two Goombas. Since the Goombas in Super Mario World are quite different from normal Goombas, turning upside down and being able to be picked up and thrown after being jumped on instead of being defeated, having more enemies that act "the expected way" when jumped on, like the Rexes, would in my opinion be advantageous. (Note: the Goombas in Super Mario World, while having been called that in the manual and officially for many years, have now been retroactively renamed to "Galoombas", starting with Super Mario 3D World.)

Dino Rhinos are unique in that they turn into Dino Torches when jumped on; while other enemies also change forms when jumped on, the Dino Rhino situation is unique in that Dino Torches have many more abilities than Dino Rhinos, making them a more dangerous enemy. Although the concept of an enemy that takes two hits becoming more dangerous after the first hit is also present in the Rex, which becomes slightly faster, and actually goes back to the Mario Bros. arcade, where the Sidestepper crab enemies became much faster after being hit once, Dino Torches are not only faster and more agile than Dino Rhinos, but can also spit fire in two directions, something the Dino Rhino cannot do. (Although notably, unused sprites exist in the code of Super Mario World that depict Dino Rhinos spitting fire.)

What I personally have always found disappointing is that an enemy with as many moves as a Dino Torch - which can run, jump, and shoot fire either sideways or upwards - and which has more advanced AI that the rest of the enemies in the game, seemingly following Mario and spitting fire upwards when he jumps over them, is used in only two levels in the game. 2D Mario games in general seem to shy away from giving enemies AI that is too advanced - although I do not know the reason, and find that decision to be rather baffling. Imagine how challenging it would be to avoid a large number of Dino Torches, especially as Small Mario? Since they can spit fire upwards, randomly jumping on them is not a good strategy; in fact, they are most vulnerable when they shoot fire sideways, as this leaves their head exposed while they do not move. Imagine if a level consisted entirely of a landscape Dino Torches could jump over - this would enable them to follow Mario through the entire level until they were dispatched, similar to Lakitus - with the added twist of needing to traverse the same terrain as Mario, and not merely flying over it unhindered by obstacles like the Lakitu. Imagine such a level containing Dino-Rhinos in high numbers - it would actually be more advantageous for Mario to jump over them then to jump on them, as they could follow him in Dino Torch form but would be slower and easily left behind in Dino Rhino form. This would also make tactical use of the Spin Jump a required skill to proceed - do you want to be able to jump further and potentially jump over the Dino Rhino, but risk turning it into a more dangerous Dino Torch if you land on it, or do you want to use a Spin Jump to completely eliminate the Dino Rhino at the cost of having the jump arc be lower and potentially jumping into the Dino Rhino from the front, getting hurt? Thinking about this for even a few minutes can easily conjure up interesting scenarios in one's mind that raise the question of why an enemy with such potential was used in so few instances.

I believe simply sprinkling Rexes, Dino Rhinos and Dino Torches in about 35 additional levels, bringing the amount of levels containing dinosaurs to 2/3rds of the total level count could have gone a long way towards both making the game appear dinosaur-themed and provide interesting gameplay by making more use of the Dino Torches advanced AI. But this is not the end of the issues Dinosaur Land has with its naming. However, now let us go back to the map screen of Yoshi's Island.

Upon beating Yoshi's Island 1, the game showcases a hereto unprecedented feature whereby beating a level not only reveals a path, but changes the environment on the world map. In this case, the hills to the left of the big mountain on the Yoshi's Island map screen grow taller. This seems to only be a cosmetic effect, likely included to showcase the map cutscene functionality without having a good way to include the map being changed in a more substantial manner - although this is speculation on my part. Then, as Mario makes his way up the newly revealed path, he passes the big visual point of interest of the entire screen - the mountain with a lake on top of it - without interacting with it whatsoever. Now, if you think I am exaggerating the seeming importance of the mountain, consider that it is actually given a name in the game's manual - Kappa Mountain - despite not containing a level. A Kappa is a type of Japanese mythical creature with an indention on top of its head that is filled with water; resembling the mountain with the lake on top of it. Note that the manual does not give names to many places on the map; in fact, the names are "Yoshi's Island", "Kappa Mountain", "Donut Plains", "Vanilla Dome", "Cheese Bridge", "Soda Lake", "Cookie Mountain", "Forest of Illusion", "Chocolate Island" and "Valley of Bowser". As you can see, all of these except Kappa Mountain are either names of world areas with more than one level of that name, or areas containing at least one level named after them. This has resulted in the common

theory that Kappa Mountain was at some point intended to contain a level, which was scrapped during development.

I believe this could have been fixed simply by transferring the location of Yoshi's Island 4, which is an early-game water level, to the top of Kappa Mountain. I doubt that anyone would think anything is off if that place on the map screen contained Yoshi's Island 4, as the green mountainous background and water foreground of that level would be good fits for what we can see of Kappa Mountain, and the level of challenge would be expected for a level this close to the beginning of the game. The actual Yoshi's Island 4 location could then be paved over with the path leading from Yoshi's Island 3 to Iggy's Castle, or even better, Yoshi's Island 3 could be moved to where Yoshi's Island 4 was to prevent the long stretch of path from feeling like something is missing.

At the top of the even taller mountain behind Kappa Mountain is the first Switch Palace level, Yellow Switch Palace. These levels have a very simplistic aesthetic of an indoor space with diagonally striped walls - while we do not see what any of them look like from outside, we can assume that they take place inside a giant building that looks like a switch, which is exactly what we see on the world map. Now, the obvious counterargument here is that the switch may be depicted only for the benefit of the player; and that the actual building would look different. As there are no official materials showing a Switch Palace from outside - unless you believe the map screen does in fact show it from outside - we will never know for certain. Beating a Switch Palace by stepping on the associated switch in the level results in an animation on the map screen of many Exclamation Point Blocks flying out of the palace before the latter is destroyed. Again, it is impossible to tell whether this is merely to indicate that Exclamation Point Blocks have now been spread across the game's world, or whether these events are supposed to actually happen in front of Mario's eyes. If yes, this would undoubtedly be exciting to watch in 3D with modern graphics - a building exploding into many blocks that fly out in all directions.

An interesting thing about the location of the Yellow Switch Palace is that it is outside of the Yoshi's Island map screen, on what is known as the overworld map screen. The overworld map screen contains the levels of World 2, Donut Plains, World 4, Twin Bridges, and World 6, Chocolate Island, as well as some levels belonging to Worlds 1, 3, and 5. Going to Yellow Switch Palace shows the player a glimpse of the overworld, and if the player experiments with the controls, they can find out that pressing Start allows them to enter "free view" mode, where the camera can be scrolled across the entire overworld for a preview of all major areas up to World 6. I find this to be a great idea with a great execution and would not change anything about it.

Going back to Yoshi's Island, now the only path that can be taken is the one going right, to Yoshi's Island 2. Yoshi's Island 2 introduces Monty Moles and Chargin' Chucks - although one Chargin' Chuck could be found before the end of the level in Yoshi's Island 1, it is very easy to defeat it without engaging it simply by touching the goal tape and causing it to instantly be defeated. Yoshi's Island 2 actually forces the player to deal with the enemies as they are out in the open. Chargin' Chucks take three hits to be defeated, and also have AI that allows them to follow Mario, just like the Dino Torches, but they are easier to predict as they can only run and jump. Curiously, while a wide variety of Chargin' Chucks exist in the game that perform different moves and attacks, they will not run after Mario until they are hit once, upon which their behavior will change to that of normal Chargin' Chucks and they will not use their

previous behaviour again. For example, a Chargin' Chuck that throws footballs will continue standing in place and throwing them until hit once, whereupon it will charge at Mario and never throw footballs again. I have a suggestion that could have made Chargin' Chucks even more interesting: add a timer to the enemy, which is set to something like 15 in-game seconds. After the Chargin' Chuck is hit once, start the timer as it charges after Mario. However, when the timer ends, reset it and have the Chargin' Chuck revert to its original behaviour. Imagine running from a Chargin' Chuck that throws baseballs and knowing that any moment, it may stop running and start throwing baseballs again. I think such a change would have not required too much additional effort, as besides the timer, no new behavior would have to be programmed, and all resulting changes in gameplay would be a result of the enemy switching between two behaviours that are already in the game. This is called "emergent gameplay" and it is a hot topic in game development on what exactly it means, whether it is a good replacement for intended gameplay, and how to make it happen in the first place. If there is demand, one of my future podcasts could be about emergent gameplay in Mario games.

My big issue with Yoshi's Island 2 is the background. It is a forest background, the same one used in varying palettes for all levels in World 5, Forest of Illusion. The following segment is going to be my opinion on background reuse, or in this case, pre-use.

When I play a video game about characters going on an adventure to new and exciting places, I expect those places to be visually distinct from each other. In a 3D game, a location can be made unique using level geometry alone - consider a narrow tunnel barely wider than the character, splitting into many corridors, winding and crossing in a maze, compared to a vast underground hall where the ceiling is hundreds of feet above the character - these locations would feel different even if the texture of the cave walls was the same in both cases. However, 2D side-scrolling games have a much harder time creating a unique feeling with level layout alone, as the camera always gives you the same amount of space to look at. It is impossible to create a space with a feeling of "vastness" in a 2D side-scroller because once an area is larger than the screen, it no longer matters how big it is because you can't see the other end. When you enter a room in say, a 2D Metroid game, you will simply not know how big it is until you have followed every wall; while in a 3D Metroid game you see the size of it immediately if it is an open space. Thus, in order to create a sense of place, 2D games cannot rely on level design alone, but must make use of art assets - i.e. backgrounds and tilesets - to make areas appear unique.

When I first enter a new part of a 2D side-scrolling game - what in Mario games would usually be called a "world" - I expect the game to present me with new art assets that have not been seen in the game up to that point, since if I enter a new world and get levels with tilesets I already saw and backgrounds I already saw, this can scarcely be called a new world in the first place. Of course, there is some leeway - I do not always expect the unique assets to be presented immediately, as I understand that in order to provide visual continuity between worlds, they may have to start with assets from the previous world and then slowly develop into new ones - a good example of this is Donkey Kong Country Returns, which starts almost every world off with an area using the general aesthetic of the previous world. I also understand that very few games have the time and budget necessary to not reuse backgrounds and tilesets between different locations - even if it may not make much logical sense for the same kind of dog, sheep, frog etc. to be present all across the world - including on the moon - in Super Mario Odyssey, I understand that asking for unique assets

everywhere is unfounded, unnecessary and unfeasible. However, I expect at least some kind of unique asset to be present in a world, otherwise the world would literally be entirely a repeat of graphics I already saw before.

This marks the end of the opinion section. Now, let us look at the backgrounds of levels from Forest of Illusion. Forest of Illusion 1, 3, and 4, as well as Forest Secret Area, use the background from Yoshi's Island 2, although two of them use different palettes of it, one in particular looking quite different due to being darker. Forest Ghost House, Forest Fortress and Roy's Castle all use backgrounds made for their specific level types and shared among levels in that type, while Forest of Illusion 2 uses the standard underwater background. To their credit, Forest of Illusion levels use a tileset that is not used in any previous levels, although not to their credit, it looks so similar to the previous tilesets that in my opinion, it makes no practical difference. It is brown soil, drawn slightly differently from the brown soil you have been encountering in the majority of the game's levels before - but despite being unique, it is still the same thing in concept. There are also foreground tiles that are unique to the Forest of Illusion levels (and the Special Zone level Outrageous), which is a canopy stretching along the top of the screen and vertical tree trunks with small cut-off branches. In the end, the only unique assets the player encounters in the Forest of Illusion are two types of tree trunks, a looping canopy graphic, and a slightly different type of brown soil, while the player is forced to look at the same background already used twice by the game before, in Yoshi's Island 2 and Donut Plains 3.

My solution to this is extremely simple: remove the forest background from Yoshi's Island 2 and Donut Plains 3, and replace it with any of the other backgrounds used by levels in those worlds. In my opinion, there is no good reason for those levels to be using that background anyway; the map screens near them do not indicate any type of forest, and I strongly doubt that a first-time player approaching those levels on the map screen would expect to see a forest background upon entering. I understand that the decision to put the backgrounds there was likely due to a desire to expose the player to different kinds of backgrounds in the beginning of the game, to show off the visual variety of which the console is capable. However, in making the decision of "pre-using" the forest background before entering the actual forest world, to me, the developers ruined the response that the background would have elicited if it was first used in the appropriate location. In essence, I believe that simply by removing the background from the two levels in question, the reaction of a first-time player could be "I wonder what the forest levels will look like - oh, what a nice background!" instead of "I wonder what the forest levels will look like - oh, it's the same as those two levels I beat earlier. Is this all they have?"

In fact, this problem is present with Worlds 7 and 8 as well. (If you are wondering about World 6 and 9, Chocolate Island 3 and 5 use a mountain background that while being in the same style and palette as the common mountain background introduced in Yoshi's Island 3, is actually unique, and the Special Zone level Tubular contains a unique background with smooth mountains that seem to be a much taller version of Donut Plains 1's triangular hill background. Why that background was not given more palette swaps and used more often is baffling to me, especially considering the preponderance of mountain levels that all simply reuse the Yoshi's Island 3 mountains instead of using the perfectly acceptable Tubular background. There is actually one more place in the game that uses it, but it becomes even more baffling when you realize that it is the final room of Soda Lake - the one-screen area that contains literally no interactive objects other than the goal tape. The room is so small that

the background cannot even be seen in full when inside it.)

World 7, Valley of Bowser, despite being the final world in the game's story, uses only unique palettes of already used backgrounds or tilesets, not unique graphics. This is somewhat understandable given that it is the game's second cave world - although why the game needed two worlds with the same theme is less understandable. World 8, Star World, however, falls victim to what I believe is an even worse case of a background's first impression being ruined by inappropriate pre-use.

Super Mario World contains a background of a night sky with twinkling stars. I believe I am not the only one who would say that it is a very good-looking background, perhaps the best-looking one in the game. Since it matches up with the map screen of Star World, I believe it was made specifically for those levels, and is used in 3 out of 5 levels in that world (the other two being inside a cave and underwater, respectively). Imagine how rewarding it would feel to a player to enter a Star World level - each of which requiring the player to find at least one secret exit to enter - and seeing that background for the first time. I believe that, if that were part of the game, would have been one of its most memorable moments. However, it isn't part of the game due to the background being pre-used in exactly one level, Vanilla Dome 4.

Ever since I first played Super Mario World many years ago, I was baffled by Vanilla Dome 4. While it is certainly a unique sight to be playing through many cave levels in a row, expecting another one, and then being greeted with a level with a starry background, there is in my opinion no logical sense to why it should look like that. I understand that within the context of the cave, the stars are presumably supposed to represent twinkling crystals - just like the actual twinkling crystals on the cave backgrounds previously seen in levels throughout the world - but I am having difficulties buying this explanation due to the background still containing hills under the stars, blatantly depicting a night sky instead of twinkling crystals, as well as the game using this background for levels taking place under an actual night sky. Another explanation for this could be that the level's position on the map screen is not indicative of where it is actually happening; even though it is shown to be inside the cave like the other levels of the world, and the cave is shown from outside to have no holes leading out except the entrance door and two Warp Pipes, perhaps the level is intended to take place somewhere outside the cave or in a place where the ceiling is missing and stars can be seen through it. There is no way to disprove this, but if this is really the intent of the developers, they did what is in my opinion not their best at visualizing what is happening.

What I personally think is really the case here is that someone on the development team said, "I don't believe a big enough part of the player base will ever reach the Star World. We should put the good star background somewhere else in the game where more people can see it." and after some discussion, the team decided to put it in the cave world for unknown reasons, although of course this is pure speculation. I do believe this has resulted in a memorable moment for many players - seeing Vanilla Dome 4 for the first time is certainly very unexpected, and the visual of the stars in the cave is rather striking. However, I would have preferred the background to be left to be used only in the Star World, as that would provide a great reward to those who put in the effort to reach it. Of course, the unfortunate reality of creating commercial works is that there is a cost and a benefit to everything, and the main aim is to have the greatest benefit for the lowest cost. If putting the star background in World 3 will result in more people being impressed than putting it in World 8 simply because fewer people will reach World 8, then in the interest of making the game more impressive, in turn

causing people to recommend it to others, in turn resulting in more sales, is the sensible thing to do from a business perspective.

Back to Yoshi's Island. Yoshi's Island 3 and 4 use the game's favorite mountain background, consisting of very geometrical cliffs jutting out diagonally at a 45 degree angle, although they use different palettes of it. I personally do not believe that this background fits with what the map screen presents Yoshi's Island to look like, and I think it could have easily been isolated to Chocolate Island, as that area is in fact depicted as being covered in pointy mountains, unlike the round mountains of Yoshi's Island. Of course, I also understand that after my suggestion to remove the forest background from Yoshi's Island 2, and now the mountain backgrounds from Yoshi's Island 3 and 4, the only option left is to reuse the Yoshi's Island 1 background, perhaps with different palettes - to which I say, that's exactly what Forest of Illusion is already doing with its levels in the game. I do not personally believe it would take away too much from the feeling of the levels to have Yoshi's Island 1, 2, 3 and 4 use the same background in different colors - although of course, it is also obvious to me that the developers simply wanted to use different backgrounds near the beginning of the game to show that it has visual variety - after all, the first impression counts the most.

For this, my suggestion would be to use the mountain background from Tubular - the one not used anywhere except a secret level and one room with no objects in another level despite the game reusing other backgrounds left and right - and use two palette swaps of that one for two of the Yoshi's Island levels. This would result in more visual variety while also not unnecessarily pre-using Forest of Illusion and Chocolate Island backgrounds. I also believe the more smooth mountains of Tubular are a better aesthetic fit for the more friendly, early-game nature of Yoshi's Island than the craggy mountains the game uses, although this is of course subjective.

Yoshi's Island ends with Iggy's Castle, which introduces the archway castle background that the majority of the castle and fortress levels in the game ends up using in different palettes. Iggy's Castle also introduces climbing on fences, using the fence-climbing-exclusive punch move to take out enemies, and switching between foreground and background by punching special panels on the fences. Yoshi cannot enter the level, as he is automatically dismounted by Mario in a cutscene shown before each castle, fortress or Ghost House level. An interesting thing about the cutscene is that Mario looks upward in front of the closed door, whereupon the door opens. This is, to me, fascinating, as it has many layers to it.

First off, this may be a remnant of content that ultimately went unused in the game. In the code, tiles for a room with a "No Yoshi" sign can be found - a road sign with a Yoshi icon that is crossed out. When restored by hacking, the room acts exactly like the entrance to a castle or Ghost House - if Mario is alone, he will approach the sign, look up at it, then walk offscreen to the right. If Yoshi is present, Mario will dismount Yoshi and leave him in front of the sign. It could be that this screen was programmed before the entrance cutscene used in the game, and the fact that Mario looks up before the door is simply a remnant of the behaviour that made more sense in front of a sign - to look up at it. However, there is more to this.

From a world-building point of view, Mario looking up and then the door opening shows that someone inside the building is aware of Mario's presence, and opens the door for him. Note how Mario does nothing that would alert the characters inside to his presence - he merely looks up - and the door is opened. If anyone had any questions about whether Mario got into

castle levels by sneaking in, this answers those questions with a "no". Mario is not infiltrating anything, he simply walks in because his enemies allow him to, presumably with the expectation to be able to defeat him. This is also picked up in later games in the series; in Super Mario 3D Land and World, Mario walks in through open castle gates that then shut behind him. The fact that they shut proves someone is manipulating them, while the fact that they are open shows that Mario is expected to walk in.

Finally, from a gameplay point of view - and I am not quite sure whether this is intentional or coincidental - but it is a very clever way of showing how to open doors. Imagine someone who has not played any 2D platformers before and does not know about the convention of opening doors by pressing Up on the D-Pad. If that person gets to a door, they may try pressing buttons to open it instead, which would fail. Then they may remember the cutscene where Mario looked up before the door was opened for him, and try looking up in front of the door by pressing Up, which would then open it. In essence, the cutscene gives those who may not know how to open doors a hint on how to do it. Now, you may say, "for those people, there is a Message Box at the beginning of Iggy's Castle explaining how to enter doors", but I don't think I need to tell you that many people have an aversion to reading messages in video games, and will certainly not activate every single Message Box they come across. While it is good to give instructions in written form, it is to my knowledge a commonly accepted guideline of video game design that the less words are necessary to explain how to play, the better. In addition, some people may be playing the game in a language they do not speak, and thus unable to read the messages, or simply be young children or illiterate for any other reason.

After an autoscrolling section - also the first in the game - the player confronts Iggy. Iggy's battle takes place on a tilting platform that uses the so-called "Mode 7" of the SNES to rotate a background layer. Mode 7 was a part of the SNES's toolkit that the developers attempted to show off, and while this particular instance of it was put to good use, as the rotation of the platform is integral to the battle, many others do not serve any apparent practical purpose, and in my opinion were included simply because someone on the team was given the directions to include some minimum amount of Mode 7 effects. For example, Morton uses Mode 7 to stretch his sprite before dying, with no actual effect on the battle. I realize that Mode 7 is very complex to program, resulting in only a fraction of SNES games using it, which is why even if I had ideas on where it could be used, actually suggesting it to be used would be demanding too much extra effort of the developers.

This concludes my analysis of World 1, Yoshi's Island. Starting with World 2, Donut Plains, I will get through the levels much faster due to mentioning most of the big topics during my Yoshi's Island discussion. With that said, let's look at Donut Plains 1.

Donut Plains 1 introduces a new background - low, wide, green triangular hills - but more importantly, it introduces the game-defining power-up, the Cape Feather, and the just as game-defining idea of secret exits. The Cape Feather turns Mario into Cape Mario, who has the ability to fly after taking a running start. This by itself is nothing new to the series; three power-ups in Super Mario Bros. 3 allowed Mario to fly as well. However, what makes the Cape Feather different from the Raccoon Leaf, the Tanooki Suit and the P-Wing on a fundamental level is that the flight is not limited by a timer or by the scarcity of the power-up, but solely by the player's skill at pressing Left (if flying right) or Right (if flying left) with good timing.

Countless analyses, critiques, defenses and discussions of the Cape Feather exist online - and have been made ever since the game's publication before the Internet was something the majority of people were aware of. (In case you were wondering, the Internet, and even the World Wide Web, already existed by the time Super Mario World was released - in fact, the very first browser written predates the Japanese release of the game by less than 2 weeks.) The majority of the discussion is an eternal argument about whether is it more important to allow the player freedom or to not allow the player to accidentally skip all the parts that the developer had painstakingly designed to be as fun as possible, as can easily be done with the Cape Feather. I personally see nothing wrong with the Cape Feather as it is implemented in the game, although I am also admittedly the type of person who would look at all content in the game simply because it is there, and would not be interested in skipping it even if given the ability to do so. Other people may want to beat a game as quickly as possible, which in conjunction with using the Cape Feather most efficiently would result in them skipping very large portions of gameplay, resulting in an overall less enjoyable experience. In the end, I believe that what matters the most is each individual player's preference of seeing as much content as possible versus feeling like as good a player as possible. Not skipping is something the group preferring the former would be likely to do, while those preferring the latter would sacrifice seeing content in order to beat the game faster. All I can say is that I would not change how the Cape Feather works, and I believe that adding options for players to be able to perform more actions is in most cases adding value to the game rather than removing it, although of course I admit there will be exceptions.

Secret exits in Super Mario World work differently from regular exits. While a regular exit requires only for Mario to touch the goal tape, a secret goal requires Mario to find two objects: a portable key and a stationary keyhole, and then bring the former to the latter. In a way, this is three times the work, and the game rewards it appropriately, most of the time unlocking new levels that would not be available without finding a secret exit, or sometimes unlocking shortcuts to levels that would be reached normally, but only by going through other levels first. While secret exits existed in the series in some manner ever since Super Mario Bros. with its hidden Warp Zones, and were refined slightly further with Super Mario Bros. 3's hidden chests that give the player an item and boot Mario out of the level while marking it complete, Super Mario World takes the concept very seriously and elaborates on it in a way that may be unexpectedly deep given the previous entries in the series.

Naively, one would expect that a level unlockable only by finding a secret exit in another level should not itself have a secret exit - after all, less than 100% of all players will find the secret exit and see the secret level, then less than 100% of those players would be able to find the secret exit in the secret level, and if this is repeated enough times, more and more players are filtered out until only the few willing to scour every level for secrets remain. Surely, it would be bad business sense to lock away content in such a way that a progressively smaller amount of people may ever see it? However, this is exactly what Super Mario World ends up doing. The very first secret exit in the game culminates in a shortcut leading all the way to the final level of the game if the player finds the secret exit in every successive level unlocked, which becomes harder the further the player progresses along this path.

The secret level in Donut Plains 1 unlocks Donut Secret 1, the first underwater level in the game. Beating Donut Secret 1 merely creates a shortcut to Donut Ghost House, which is not even a "shortcut" in the sense that it reduces the amount of levels beaten, as the player would have arrived there two levels after Donut Plains 1 even without the secret exit. Getting the

secret exit in Donut Secret 1 unlocks Donut Secret House, another Ghost House level. Now, here is a good time to mention that the game usually tells the player up front about there being two possible exits from a level - by having the icon for a level be a red dot. This is mentioned in-game by message blocks, but in my experience, many players are not aware of the significance of the red dots. Still, even those who know to look for secret exits in levels that are depicted as red dots would be stumped by Ghost House levels, as those are not presented as dots at all. The same applies to fortresses and castles, but as those are destroyed and rendered impossible to revisit (unless the player uses a trick where pressing L+R on a destroyed castle reenters it) it is logical to assume that those would not have secret exits - and in fact, they do not, even though it would be curious to imagine a secret exit that requires the player to know about the trick to revisit castles to activate.

Ghost Houses, however, are almost exactly the opposite - every Ghost House has two exits except the Vanilla Ghost House and the Choco-Ghost House. This is, in my opinion, brilliant game design. The Donut Ghost House is the first of these that a player is likely to visit, and it contains a secret exit that is hard to find, leading to the so-called Top Secret Area, a one-screen level that can be used to collect Yoshi and any power-ups of the player's choice, as well as an infinite amount of 1-Up Mushrooms. A first-time player is very unlikely to find that exit on his first visit to the Donut Ghost House, and will instead find the regular exit. Then, the second Ghost House the player encounters, the Vanilla Ghost House, will have no secret exit at all, so if the player had by that point started finding secret exits in levels, they would not be able to find one here since it doesn't exist. Together, the hard-to-find secret exit of the Donut Ghost House and the absent secret exit of the Vanilla Ghost House accomplish a devious goal: to fool the player into thinking all subsequent Ghost Houses had no secret exit. And even after finding that they do in fact have secret exits, the player may assume that this only applies to later Ghost Houses and never go back to check the very first one - the one before the one without a secret exit at all - for a secret exit.

So, the player has to find the secret exit in the Donut Secret House - which has no definite hint of even existing, and is the only secret exit in the game to not involve a key and keyhole, but a secret boss fight against The Big Boo - to unlock a Star Road. Star Roads are points of access to World 8, Star World, and connect five points in previous worlds to Star World. In order to use a Star Road, it must be unlocked from outside Star World - trying to use one after unlocking it from inside, but not from outside, will teleport Mario to the correct place on the map screen, but not actually let him move, with the only option being to go back to Star World. This is true for four out of the five Star Roads - one is special in the way that it actually lets Mario access a level by unlocking it from the Star World. That is the Star Road found in World 7, Valley of Bowser, and the level it lets Mario access is Front Door, the final level of the story, which contains the boss fight against Bowser and activates the credits when beaten.

However, to reach the Valley of Bowser Star Road from the Star Road unlocked by beating The Big Boo at Donut Secret House, the player must traverse 4/5th of the Star World, as the Star Roads are unlocked in a clockwise order and it just so happens that the desired Star Road in this case is one spot counterclockwise from the starting one, meaning that it is the maximum amount of spots going clockwise. And it isn't enough to simply beat a Star World - in fact, beating them by touching the goal tape is one of the most useless endeavors in the game unless you plan to complete the game 100%, as it unlocks literally nothing. Mario will simply walk back the already existing path the way he came. To be able to move past a Star World, the secret exit must be found. Now, as the player is 4 Star Roads away from the one

leading to the final level, they must find four secret exits to reach it. Now, the player has had to find 7 secret exits in a row, and is rewarded with what amounts to skipping the entire game. I believe this is one of the best rewards in the Mario series - the player had to solve seven increasingly difficult puzzles and is awarded the most extreme shortcut in series history for that task.

Most other secret exits result in one or two levels being unlocked, but special mention goes to Vanilla Dome 1, which, if the secret exit in it is found, opens up 6 levels that together offer an "alternate version" of Worlds 3 and 4, creating a path along the top of Vanilla Dome and another bridge above Cheese Bridge, essentially skipping seven regular levels with a chain of six secret levels. While I find the concept on display here admirable, I feel that to those players who only complete the regular levels, the lack of levels in World 4 would appear cheap and an apparent indication of the game no longer giving its best to entertain the player. Consider that if no secret exits are found, World 4 consists of three levels - that is not only fewer levels than any other world in the game, but also fewer levels than any world in any 2D Mario platformer outside of Super Mario Land and Super Mario Bros. 2. I believe one of the issues that could prevent a player from realizing that there is more to the world is that Butter Bridge, the final part of the secret path, is quite long and connects two points so far apart that it may be hard to recognize that the fortress on top of the Vanilla Dome would open a path to a castle on the next mountain over. Now, admittedly, Ludwig's castle does have a single tile of path to the left of it, indicating that there is some sort of path to be unlocked, but again, someone without knowledge of Butter Bridge may assume it may be a path going from the castle rather than towards it. I would propose to solve this simply by adding another similar tile of deactivated path to the right of Vanilla Fortress; now the player would be able to see two paths coming towards each other, making it much easier to realize that they would connect and that there may be a bridge with additional levels to be found here.

Back to Donut Plains. Donut Plains 2 is the first cave level in the game, and it is not even inside one of the game's two dedicated cave worlds. Of course, no matter how much Super Mario World loves its cave levels, it has nothing on Donkey Kong Country, where roughly 2/5th of all levels take place underground, divided between cave levels, mine walkway levels, mineshaft levels, minecart levels, and the one ice cave level. Coincidentally, Donkey Kong Country also has two dedicated cave worlds. This level is an autoscroller, and it uses a background that I to this day am not able to parse - it depicts some blue objects, but they are too vague to me to recognize. Could they be stalagmites? They appear to be lichen growths to me - but that is not the color they are usually portrayed with in fiction, plus, usually these are drawn to be symmetrical. Perhaps they are simply very stylized boulders. In addition to the autoscrolling camera moving left to right, parts of the level are on their own layer and move up and down. The combination of these two vectors of movement results in Mario being pressured from up to three different directions to move, greatly heightening the stakes compared to autoscrolling levels in Super Mario Bros. 3, which were not able to employ such effects.

As I have already discussed the next level, Donut Ghost House, I will focus only on the fact that every single Ghost House background is the same. Some - though not all - use different palettes, most notably Valley Ghost House with its striking bright background that is really the same background as all other Ghost Houses but with a radically different palette. I believe that even without creating additional backgrounds, more variety could have been achieved by using more palettes. The least that could be done is just to tint the background a unique color

for each of the Ghost Houses, for example blue for the Vanilla Ghost House, green for the Forest Ghost House, etc. although this is again subjective, as I am certain many players value a Ghost House to feel "creepy", which may be jeopardized if it is presented in too many colors.

Beating the Donut Ghost House results in something I have an issue with. Another map screen cutscene will start, and a canal from the lake in the middle of Donut Plains to the edge of the plateau will be created, whereupon a bridge will appear. This may all be quite impressive, but this leads me into a discussion on what exactly "Donut Plains" means, tying back to Dinosaur Land having a name that does not truly describe the location appropriately.

You see, Donut Plains isn't just a name chosen randomly for that area. Donut Plains, or as the cutscene for beating Iggy's Castle calls it, "Donut Land", is named this way because its original shape - before beating Donut Ghost House - resembles a donut. It is a plateau with a large lake in the middle, a ring of land of roughly uniform width around it. Now, the shape is not as round as donuts are usually expected to be, but looking at the area in its state before the canal is created, it should in my opinion not appear to be a big stretch to call it "Donut Plains" based on its shape. After all, Donut Blocks in the Mario series are very rarely shaped like donuts, either (although this is for a different reason - they are not called Donut Blocks in Japanese, but are instead named for a type of sushi, Donut Plains however is called Donut Plains in all regions). However, Donut Ghost House will in the vast majority of cases be the third level the player beats in the area, and since the canal can not be "un-built" after being created, after merely three levels in the world, it loses the landscape feature that it was named after permanently, as with the canal, the plateau can no longer be said to resemble a donut at all - at least in my opinion. So what is happening here is that shortly after arriving in the area, Mario is responsible for deforming it in such a way that its most prominent landscape feature is no longer present. Also, keep in mind that this is still very near the beginning of the game - many players will create the canal after beating 7 levels out of the game's 75, which means that for the longest part of the game, the Donut Plains will not look like a donut. In fact, someone who tries to beat the game to 100% completion and keeps playing on the same save file for that purpose may spend so much time looking at the canal version of the area that they might forget it ever looked like a donut in the first place, at least until they decide to restart the game on a new save file.

I would propose a fix to this simply by getting rid of the cutscene of the canal being created. It serves no purpose other than to show the player that the game is capable of changing the world map; the canal does not contain any levels, and every level on the map functions the exact same no matter whether the canal is present or not. Replacing the canal and bridge with a path would preserve the donut shape and not result in the scenario outlined above.

As previously discussed, there is a secret exit in the Donut Ghost House that leads to the Top Secret Area, which, true to its name, may be one of the most well-hidden areas in the game. In order to reach the exit, Mario must enter the ghost house with a Cape Feather, take a running start from the first gap in the floor going left, and fly upward, where he will encounter a gap in the ceiling. Quickly turning around to the right and following the top of the ceiling will bring Mario to a secret alcove to the right of the room's normal exit door containing four Question Blocks with 1-Up Mushrooms and a door leading to the secret exit. What makes this method of accessing the secret exit special is that Mario must fly through a cloud of randomly appearing, disappearing and swooping Boo Buddies. It is not feasible to predict their

movement well enough to ensure that Mario will fly without touching any of them, so the game essentially demands the player to take a risk that is impossible to calculate. Since Mario games do not usually do that, someone familiar with them may simply not try to fly through the Boo Buddies as that would go against conventions they have expected to see.

The Top Secret Area itself uses the exact same Yoshi's Island 2 / Forest of Illusion background I have already discussed at length. I personally believe it would have been a nice diversion to use the Switch Palace / bonus minigame background for this area to underscore the bonus nature of it, however, I admit that the forest background makes sense given the visuals around the spot the Top Secret Area is located on the map. Interestingly, in the GBA remake of the game, the usual dot on the map was replaced with a unique sprite of a smiling hill; in which case perhaps a hill background would have been more appropriate. The level can be exited simply by walking off-screen just like Yoshi's House, and also has no time limit. It consists entirely out of flat ground and five Question Blocks, one containing a green Yoshi, two containing a Super Mushroom that upgrades into a Fire Flower, and two containing a Super Mushroom that upgrades into a Cape Feather. This is, in my opinion, a very clever way to allow the player to get any combination of two power-ups with the smallest amount of Question Blocks possible. All that is missing from the level to allow Mario truly every single configuration of statuses is a static hurtbox, like a spike, to be able to bring him down to Small Mario size without having to enter a level. Of course, as reducing Mario to Small Mario is mostly trivial in almost all other levels, it is not surprising that this feature is not included.

Donut Plains 3 is yet another level with the same forest background, albeit a slight variation on it where the top of the graphic is swapped for a light blue color and filled with clouds. This level marks the introduction of Fuzzies to the series, which are a very simplistic enemy that simply moves around on tracks back and forth. Due to Fuzzies being impossible to defeat or neutralize (at least the ones on tracks; later levels feature Fuzzies acting like Sparks from Super Mario Bros. 2 as they circle around blocks; these can be defeated with shells), it may even be more appropriate to call them obstacles instead of enemies; with the only point in favor of them being enemies is that they are clearly animate beings. An odd oversight involving Fuzzies is that they are unable to harm Mario when he is riding Yoshi; although Yoshi will still bounce off of them if he touches them with the lower part of his body, so caution is still required to not accidentally bounce off any moving platforms. It is baffling how this could get past the testing phase without it being intentional design; however, there are no hints in the game or manual of this lack of interaction being intentional either.

Donut Plains 4 is yet another level using the low hills from Donut Plains 1, and it introduces Amazing Flyin' Hammer Bros. Why "Amazing" is written out fully but "Flyin'" has an apostrophe is unclear. In many ways, the A. F. H. Bro (as the enemy is later called in Super Princess Peach) is a much simpler-to-defeat variant of the normal Hammer Bro. common in Super Mario Bros. and Super Mario Bros. 3. The common Hammer Bros. are dangerous not just due to the unpredictability of their hammer throws, but also their eclectic movement which involves jumping up and down through rows of blocks at random intervals, along with slight back-and-forth movement that makes them nontrivial to hit from below. The A. F. H. Bro's movement is entirely predictable, as he flies in the same arc back and forth, and defeating him is only a matter of avoiding the hammers and timing the jump, as opposed to avoiding hammers, reacting to the Hammer Bro's movements and possibly having to flee if the Hammer Bro jumps to a spot where he can not be hit from below. Once the A. F. H. Bro is defeated, the platform he is riding becomes vacant and safe for Mario to step on while

continuing to fly in the same arc, so that Mario can use it to cross pits or reach higher platforms.

Another element I would like to discuss is secret 1-Up Mushrooms. The way secret 1-Up Mushrooms functions is the following: there are 4 invisible 16x16 tile-sized object in the level, numbered internally from 1 to 4. If Mario touches them in order (meaning touches the first one at any point, then the second any time after, then the third, etc.; touching the second before the first or the third immediately after the first does not break the sequence) then a 1-Up Mushroom will appear. In Donut Plains 4, a block is floating a few tiles off the ground at the end of a long cloud platform. If Mario touches the space below the block, then the tile to the right of the block, then the top of the block, and finally the left of the block, the 1-Up Mushroom will activate. In short, Mario must pass under the block, jump onto it from the right while touching the side, and finally fall off the left side of the block. This is not very likely to happen, as a typical player would first hit the block, then jump on top of it to see if there are any invisible blocks above it, and then jump off to the right to continue in the level. To complete such a precise series of movements just to obtain a 1-Up Mushroom is, in my opinion, creating a secret that does not pay off. Many 1-Up Mushrooms can be found in levels without making Mario move in secret patterns; even a slight change like making the event spawn a 3-Up Moon instead of a 1-Up Mushroom would make it feel more rewarding to me.

Now, on to this world's secret levels. Donut Secret 1, accessible by finding the secret exit in Donut Plains 1, is the game's first underwater level. Like all underwater levels outside underwater segments in castles and fortresses, it uses the same background with animated blue pieces of seaweed. Interestingly, even though all of the game's other animated backgrounds have 3 frames of animation, the underwater one has 4 frames. Donut Secret 1 features the three main fish-type enemies, the Cheep-Cheeps, the Blurps and the Rip Van Fish. The latter ones have a surprising complexity to them. They can be woken up not just by a proximity to Mario, but also by a special variety of Chargin' Chuck that whistles. In addition, if Mario is under the effect of a Super Star, they will swim away from him upon awakening instead of toward him. Picking up an object underwater reveals an odd, but entertaining gameplay mechanic: all objects underwater are extremely buoyant and self-propelling, meaning that instead of sinking, Mario will slowly rise and automatically be pushed forward as long as he is carrying an object underwater. Despite appearing counterintuitive the first time it is encountered, the mechanic prevents the handling of items underwater from becoming tedious (as, for example, it becomes in Super Mario Odyssey, where Mario simply loses the ability to use Cappy or perform any fast swimming moves when carrying an object underwater).

Completing Donut Secret 1 leads either to the Donut Ghost House in the case of finding the normal exit or the Donut Secret House with the secret exit. The Donut Secret House is mostly notable due to its use of P-Switch-activated doors (which return from Super Mario Bros. 3) and the "The Big Boo" boss battle. Note that there is a difference between Big Boos without the article - these are the common enemies in the levels - and "The Big Boo", which is the boss found only in this level. The Big Boo battle is unique in that since the boss must be hit with the Grab Blocks to be damaged, and the Grab Blocks do not respawn, there is only a limited amount of chances to damage the boss before Mario must retry the level. The room contains 42 Grab Blocks, with at least one being required for Mario to stand on, so there is a maximum of 41 chances to hit the Big Boo. Of course, this should be more than enough as the Big Boo only takes 3 hits and moves relatively slowly; still, it is original for a boss battle to

be limited by something else in addition to the level's timer.

Completing Donut Secret House by beating the Big Boo unlocks a Star Road, while finding the normal exit creates a path to a pipe to the east of the ghost house. Taking the pipe takes Mario to the Valley of Bowser.

Entering the Valley of Bowser - even as a preview - when the player is only in the second world can produce a variety of emotions in the player. Most likely, there is a sense of intrigue or interest: what is this place? Is this truly the final world? Why is the game showing me the final world this early in the game? Why is there a neon sign on the castle? Is the flying shadow Bowser, and if yes, why does it have two faces? Why is there lightning underground? Am I even underground? If no, where is this place? I would wager that these questions are the ones the programmers intended the players to ask themselves. I, however, have another question: why can Mario not climb down the cliff he is on to end up in the main area of the world? Usually, if a game decides to "preview" a much later area, the small segment of it that the player is allowed to explore early is walled off so there is no way of freely exploring the main area. If it is not walled off, impassable pits or unscalable slopes separate the areas.

In the case of Valley of Bowser, the map screen clearly shows that Mario is on top of a tall cliff overlooking the rest of the valley. Normally, a good argument against being able to climb down would be "the cliff is too sheer, and a jump would be from too high up and would result in the character splattering". This argument would work for almost all video game heroes, and even for Mario himself in most contexts. We can assume that even in games where Mario does not display fall damage, there are falls that are so high that Mario would not survive them. After all, the cliff is taller than the mountain Ludwig's castle is on, and only slightly less tall than Vanilla Dome, the tallest mountain on the map. It is not a stretch to assume that Mario cannot simply jump down from a mountain.

However, Super Mario World contains the Cape Feather. I realize this is an extreme level of nitpicking and very few people outside of myself would even care about this small potential hole in the plot, but I would not use a sheer cliff as a way of separating areas in a game where an item exists that can arbitrarily slow down the main character's fall, and the item is featured prominently in the game's advertising. I also realize that this same argument can be taken to a logical extreme by saying "the Cape Feather technically allows Mario to fly indefinitely; by the same logic, he could have flown anywhere on the map to begin with, rendering most of the adventure after Donut Plains 1 redundant". I admit that I have no counterargument against this, and again, I realize that this may be the least well-founded complaint I have raised in this entire discussion, but I also submit that it would be very easy to remedy this simply by adding a fence around the preview area, or a narrow bottomless pit around the base of the cliff. I hope that even if you find this particular critique to be nonsensical, at least the rest of the discussion can provide some value.

Donut Secret 1 is an ice level - one of very few ice levels in the game - using a modified version of the Vanilla Dome cave background. Despite ice physics being fully implemented into the game, the developers decided that out of the seven main worlds, two should be grassland worlds and two more should be cave world instead of including a dedicated ice world. Of course, ice worlds in platformers being not very popular according to what I have experienced in my time on video game forums, this may have been a wise decision.

Interestingly, the SNES version of Yoshi's Cookie, which features 10 backgrounds based on Super Mario World ones, does contain a winter background that resembles the Yoshi's Island 1 "tall round hills" background, but with an additional row of conifers covered in snow. It is unknown whether this was an original idea on part of the Yoshi's Cookie designers or whether it was based off unused artwork for Super Mario World.

Completing Donut Secret 1 circles us back to Donut Plains 3, and now we are ready for Morton's Castle. This castle features Thwomps and Dry Bones returning from Super Mario Bros. 3, as well as Ball and Chains, a visual redesign of the Roto-Disc obstacle from the same game. It also introduces Thwimps, small Thwomps that jump in a very high arc back and forth. This castle introduces the second and third castle backgrounds: one made out of large rectangular blocks and rectangular windows with lattices on them that matches the foreground blocks in many castle levels, and one black background with small dark blue bricks and more traditional windows with a rectangular bottom and a semicircular top. There is also a small background with wooden boards and nailed-shut windows used exclusively in Morton's and Roy's boss battles and nowhere else. This is, believe it or not, the last time unique castle backgrounds are introduced in the game (outside of a very specific scenario in Ludwig's castle, discussed later) - and it's only the second fortress/castle level out of 12 such levels in the game. Certainly, new palette swaps of them are used all the way into the final story level, Front Door, but this marks the end of actual new assets being introduced.

In Ludwig's castle, there is another unique battle background used in the fight against him, as well as something that appears to be a background at first, but really technically isn't. In the first room, Mario makes his way through a very narrow passage with a "background" consisting of red rocks. However, looking closely, the rocks do not have a parallax effect - they move as though they were in the foreground - which they actually are. The red rock "background" is just decorative foreground tiles that fill out the corridor.

All I can suggest to remedy this is to take the five available backgrounds: the columns, the blocks, the dark one with the small bricks, the Morton/Roy battle one, and the Ludwig one, and only use a maximum of one of them per world (with palette swaps). This can at least stretch out the introduction of new assets until World 5, more than halfway into the game. It would also make much greater use of what is currently greatly underused backgrounds for the Morton, Roy and Ludwig battles. Of course, the argument can be made that the columns and blocks backgrounds are much more detailed than the other three, and deserve to be used more. To this, I can only reply that I am among those players who prefer locations to be unique even if this comes at a cost to the quality of the assets, as already discussed at length with the Forest of Illusion backgrounds; but I understand if many players have the exact opposite opinion.

In contrast to Iggy's and Larry's battles, which use Mode 7 to tilt the platform, and Bowser's battle, which uses it to simulate the Koopa Clown Car flying away from or towards the screen, the Mode 7 usage in the Morton, Roy and Ludwig battles is more frivolous, being contained to rotating the boss's sprite as they run up the wall (in the case of Morton and Roy) or make a jump (in the case of Ludwig) as well as for a death animation consisting of the boss stretching and squashing before disappearing. Note that there is little necessity to use Mode 7 there; for example, Mario runs up walls during gameplay quite fine without Mode 7 being used simply by using transitional diagonal sprites. Likewise, there is very little reason why Ludwig should rotate while jumping, as he jumped completely normally in Super Mario Bros. 3 earlier. As I

have said earlier, I believe that due to a) the development team being given the task to use Mode 7 whenever possible, and b) Mode 7 being difficult to use outside of small, highly-controlled boss rooms, the developers scrambled to insert Mode 7 into as many boss battles as possible simply so they could say they used it a certain number of times.

Defeating Morton opens the path to Vanilla Dome, the third world. Vanilla Dome is an underground submap that uses the exact same tileset as Valley of Bowser, so to those players who have had the chance to see Valley of Bowser by visiting Donut Secret 2, the view may look rather disappointing. Interestingly, even though the area is underground - and is explicitly referred to as being such during the cutscene after defeating Morton - if you look at the relative elevation of the area compared to the rest of Dinosaur Land, it is higher than most of World 1 and the entirety of Worlds 2, 5, 6 and 7. To Vanilla Dome's credit, it explores almost every major cave archetype inside one world: Vanilla Dome 1 is a dry, sandy cave with narrow passages, Vanilla Dome 2 is an underground lake, Vanilla Dome 3 is a lava-filled cave, and Vanilla Secret 1 is a vertical cave resembling a mineshaft. To its discredit, however, every single one of these levels uses the exact same brown cave background - not even recolored to match the level thematic.

Now, a point can be made that the background is there to tie all the disparate level themes together into one great location. It is there to remind the player that Mario is inside one giant open cave and the different levels are just obstacles inside that huge room. This, however, falls apart when the player reaches Vanilla Dome 4 with its starry background which I have already discussed at length prior. If every part of the cave is supposed to be so cohesive that they use the same background, there is nothing that can explain a level that the map shows to be close to the others, but which uses a background that is at best wildly different and at worst blatantly not a cave at all, depending on how much the player is willing to suspend their disbelief. There is also one argument that may come to mind when considering the technical aspects of Vanilla Dome 4: it uses a foreground tileset that is mostly specific to itself and the Star World levels with the same background. Then, the point can be raised that it may be possible that the foreground assets are somehow tied with the background and would not be able to be used with a different background. (This is based on legitimate technical limits; for example, Yoshi simply cannot be displayed properly inside castle levels if he is hacked in due to other objects taking up his sprite slots.)

However, Valley of Bowser 3 shows those exact foreground tiles being used with the usual Vanilla Dome cave background. In fact, while obviously a very subjective opinion, I would have preferred it if Valley of Bowser 3 was simply put into Vanilla Dome 4's place instead to both maintain cohesion and to not pre-use the Star World background. (Of course, the level would have to be made slightly easier to be appropriate for World 3 instead of World 7, most easily with the addition of more floating platforms.)

There is little to say about the cave levels of Vanilla Dome outside of the fact that Vanilla Dome 3 may perhaps be the level most deserving to be featured in a location called "Dinosaur Land" out of any level in the game, containing both skulls for the player to ride on and 10 Blarggs, which is a relatively high number of dinosaur-themed enemies.

The Vanilla Ghost House introduces the Big Bubble enemy (although there is genuine debate here over whether it should be called an obstacle instead, as nothing suggests that the Big Bubble is alive). The Big Bubble is interesting due to using alpha transparency; despite the

console being able to use it on both sprites and backgrounds, some transparency effects in the game are done in a more primitive style. For example, the water in Yoshi's Island 4 is a solid, non-transparent texture that is simply dithered so that half the pixels are solid blue and the other half is invisible. Strangely, the Nintendo Power guide for Super Mario World takes exactly that level as an example of alpha transparency in its section on technical details despite it not using any.

Vanilla Ghost House has another extremely esoteric example of a hidden 1-Up Mushroom. At a certain point, Mario encounters a series of platforms, each at a different elevation, but all of them exactly 3 tiles wide. If he jumps onto the second, then the third, then the eighth and finally the seventh platform - note that this means going backward - a hidden 1-Up Mushroom will appear. I would wager that the chances of any players finding this out without a guide are very slim, and the chances of any player who does not know the rules governing hidden 1-Up Mushrooms understanding what happened and being able to reproduce it are even slimmer.

The fact that the Vanilla Ghost House only has one exit raises another question about worldbuilding in regards to ghost houses. If we look closely at the intro screen for the ghost house levels, then at the screen with the goal tapes, and put them together, we can see that they look very similar, almost as if Mario could just walk past the ghost house to reach the flagpole. There are many ways to remedy the looming question of "why does Mario not simply walk around the mansion": Super Mario 3D Land and Super Mario 3D World put the goal pole inside a closed-off backyard that can only be reached from within the mansion, while Super Mario 64 and Super Mario Galaxy get around the problem by making the objective to retrieve something from within it rather than to simply get past it. In 2D games like Super Mario World, however, there is no justification provided outside of "the mansion is in the way". How a mansion could realistically be "in someone's way" to the point where it is impossible to go around it is very difficult to imagine.

As previously discussed, Vanilla Dome 1 marks the beginning of the biggest split-path decision in the game that does not feature Star World shortcuts - if the level is completed normally, the way opens to Vanilla Dome 2 and the rest of the "normal" Vanilla Dome levels, as well as Lemmy's Castle and the two regular World 4 levels, Cheese Bridge Area and Cookie Mountain. If, however, the player finds the secret exit in Vanilla Dome 1, Vanilla Secret 1 will unlock, leading the way outside to the "secret" portion of Vanilla Dome and the Twin Bridges, containing Vanilla Secret 2 and 3, Vanilla Fortress and the two Butter Bridge levels. This is also the only way during the game's story to skip one of the castles and as such not rescue all of Yoshi's trapped friends without entering the Star World. While I admire the creativity of the concept and the decision to put it halfway through the game and stretch it over two worlds, the fact remains that if a player does not open any secret exits, World 4 will consist of only three levels, which likely would to a first-time player appear extremely imbalanced. In most other Mario platformers, the amount of levels in a world either stays roughly the same or tends to increase as the game continues: compare World 1 in Super Mario Bros. 3 having 8 levels and World 6 having 14.

Vanilla Secret 2 and 3 are located outside, on top of Vanilla Dome, and use the same cloud background as the Twin Bridges levels. Looking closely, the clouds are shaped like mountains to the point that I am sure someone would be willing to argue that they are supposed to be particularly snowy and lumpy mountains. This can further be argued for due to regular oval clouds with faces populating the area above the mountain-like clouds, or cloud-like

mountains.

Vanilla Secret 3 features Dolphins. I have discussed Dolphins earlier, but another fact about them is that they are featured prominently on the original Japanese box art for the game despite appearing in the main area of one level and the secret area of one other level. Of course, that box art has other odd design choices such as having a castle displayed on top of the Bowser Gate, where nothing is located in-game, and a variety of mushrooms with patterned caps growing out of each other that resemble nothing from the game. The closest thing the mushrooms could be based on are Mushroom Blocks from Super Mario Bros. 2, as no actual striped-cap mushrooms appeared in Mario games until Super Mario RPG.

Vanilla Fortress is the game's only castle level that is entirely underwater; it uses the same blocky background introduced in Morton's Castle, but recolored to be light blue. This is also the first time Reznor can be encountered - but not the first time it is mandatory to do so, as that happens only at Chocolate Fortress, 3 worlds later. Reznor battles use Mode 7 to rotate the wooden planks that hold together the platforms the dinosaurs are standing on; In a way, due to Reznor not being aggressive with its attacks, the battle is almost an easier version of the Amazing Flyin' Hammer Bros. battle, which itself is an easier version of the normal Hammer Bros. The only way the Reznor battle adds challenge is by making the floor start to disppear once Mario hits two of the dinosaurs; the expectation being that Mario will jump onto one of the now vacant platforms and take out the third, then jump over to another platform and take out the final one. In practice, however, it is easily possible to take out all four before the floor has a chance to fully collapse, or at least three, absolving Mario of having to jump from one moving platform to another.

One interesting part of the overworld portion of Vanilla Dome is the waterfall producing the river flowing into Vanilla Fortress. The map does not show the top of the waterfall; resulting in many players theorizing as to what could be hidden up there. Those players, however, are the ones who have not seen the manual, as that clearly shows that the top of the waterfall is simply a lake with nothing notable in it with its Dinosaur Land artwork.

Going back to the inside of the cave, Lemmy's Castle is notable for introducing Magikoopas. Despite being a rare enemy in this game, the concept quickly became popular and a Magikoopa, Kamek, was elevated to the main story villain in the Yoshi's Island series and a recurring secondary villain in many other games. Magikoopas use a very characteristic blast consisting of a triangle, a circle and a square to shoot at Mario - but a damaging blast alone would not be memorable by itself. It it what happens when the blast misses Mario that shows the creativity of the enemy - if the blast hits a block instead, the block will randomly be transformed into either a minor enemy or, rarely, a power-up. This creates a variety of gameplay choices - obviously Mario should avoid the blast, but even after avoiding it, the player should be mindful of where it will hit, as different enemies produced by the blast hitting a block have different movement patterns and may hit Mario very quickly afterward. At the same time, the player may not want Mario to move too far away as there is always a chance that a power-up will spawn, which may be lost if it is allowed to travel far enough and potentially fall into a pit.

Also, the fact that sometimes the Magikoopa is necessary to destroy vertical walls of blocks barring Mario's way adds an extra layer of challenge whereby the player must time Mario's movement so that the blast is fired while Mario is between the Magikoopa and the block, but

then so that Mario does not actually touch the blast. In my opinion, this relatively demanding gameplay has been a big factor in the Magikoopas' enduring popularity.

The battle against Lemmy himself takes place in a room with the regular large block background. The battlefield consists of seven pipes at different elevations. Lemmy, along with two fake effigies of him, will pop out of three of the pipes simultaneously. Neither Lemmy nor the effigies attack at all, in fact, the entire boss battle would be completely harmless if not for a single diagonal Lava Bubble placed in the little free space above the arena. In general, the bosses so far have been, in my opinion, very easy for different reasons, but then again, a point can be made that coming off the multitude of extremely similar Boom Boom and Koopaling battles in Super Mario Bros. 3, at least the variety is an advantage.

Defeating Lemmy Koopa shows a cutscene where the game claims that Mario's quest will become much more difficult, and asks if Mario has found the Green and Red Switch Palaces yet. This is in my opinion a clever way to place a reminder, as the Red Switch Palace is between the splitting point that makes the player choose between the regular path and the hidden path on top of Vanilla Dome - so only visiting Lemmy's Castle will actually give the player a chance to unlock it, assuming the player doesn't backtrack.

We continue to World 4, the Twin Bridges. In an ironic twist on the name "Donut Plains", which becomes irrelevant very quickly after entering it for the first time and remains this way for the rest of the game, "Twin Bridges" is a name that at first seems to not describe the area at all, and unless the secret exit in Vanilla Dome 1 is found, will continue being inaccurate for the remainder of the story. Interestingly, the name "Twin Bridges" is not mentioned in the manual for precisely this reason; it is instead called "Cheese Bridge" and "Cookie Mountain", which is relatively odd due to each of these names only describing one level. The name itself is only used in the Nintendo Power Mario Mania guide, and of course, if the player is using a guide to begin with, then none of the points I raise in this podcast apply to them in the first place.

The world consists of the Butter Bridge levels on the secret path, the Cheese Bridge Area and Cookie Mountain on the normal path, and Soda Lake, a hidden level accessed through the secret exit in Cheese Bridge Area. The three bridge levels all use palette swaps of the same "mountains of clouds" background seen in the Vanilla Secret 2 and 3 levels; with the palette swapping only applying to the portion of the sky seen above the clouds - meaning that most of the time, the view will be the same, as the clouds take up the majority of the background.

Interestingly, only Butter Bridge 2 is made up mostly of bridge tiles - Cheese Bridge Area consists largely of tracks floating in the air, while Butter Bridge 1 only has a smattering of isolated bridge tiles between seesaw platforms. Bridge levels in general are a continuation of the idea introduced in Levels 2-3 and 7-3 of the original Super Mario Bros., where Mario had to run across a broken bridge while flying Cheep Cheeps assaulted him. I admire Super Mario World for taking up that level concept and making an entire world (a very short one, but still) based on it.

Cheese Bridge Area features a very interesting variation on the secret exit concept. Instead of being a keyhole and a key, or a secret door, the secret exit is located behind the normal exit. To reach it, the player must figure out that even though a goal tape activates no matter how far Mario is above it, it will not activate if Mario passes below it. Of course, there are no

opportunities to pass below a goal tape until Chocolate Island 3 two world later; however, once the player gets there, the concept is made mandatory to progress. The game expects the player to recall that passing under a Goal Tape is possible and mentally connect the sequence of three consecutive arrow signs they saw in Chocolate Island 3 with the two arrow signs shown after completing the normal exit of Cheese Bridge Area. There are two ways to actually pass under the goal tape in this level: either with a Cape Feather or with Yoshi.

The Cape Feather method involves flying over the final track portion of the level, as it has no ground, and finally performing a steep dive directly before the goal tape. With some luck and/or skill, the player can then quickly press Left to make Mario rise just enough to cross onto the platform behind the goal tape from below. The Yoshi method is perhaps more well-known; it requires the player to bounce on the Chainsaws while riding Yoshi and finally jump off Yoshi, abandoning him to fall into the pit, right under the goal tape. This is widely known as "Yoshi betrayal" and has been the target of numerous jokes from players over the years.

I truly admire the entire idea of this secret exit and do not believe it can be improved upon in any significant way; all I would have wished for is the arrows behind the goal tape to be more prominent, as the way they are in the game, it is easy to dismiss them as not being relevant to gameplay and merely showing Mario that the path towards Ludwig's castle continues in that direction. Curiously, the GBA version of the game added more arrow signs here, making the implication much harder to miss. I personally believe that the most clear way the game could indicate that it is possible to pass here is to mirror an arrow sign vertically and attach it to the underside of that platform, although of course it may be argued that this method would be too blatant and take away from the puzzle of figuring out the secret exit.

Soda Lake is the level accessed with that secret exit. It is remarkable for being the only level to contain Torpedo Teds, and for the only level outside of Tubular to feature the "tall mountain" background, in this case, in a tiny room before the goal tape. Why the tall mountain background, which in my opinion looks no worse than all other backgrounds that were used multiple times by the game, was so underused is unclear. Torpedo Teds are widely assumed to be called "Ted" to match with Bullet Bill as a reference to "Bill and Ted's Excellent Adventure", a movie that was 1 year old and very recent in the translators' minds at the time of release. The arms coming out of the Torpedo Ted boxes are black with white gloves, highly resembling the arms of Mickey Mouse; a fact pointed out by several Super Mario World manga.

Cookie Mountain is a regular mountain level that I believe was added to this world purely out of a need for variety and does not introduce much except for Sumo Bros. Sumo Bros have the ability to drop lightning bolts that explode into a five-tile wide collection of fiery columns that is very difficult to jump over. I think this enemy has been underused, as it almost always appears roughly the same distance from the ground, requiring the same strategy to pass it every time. If the Sumo Bro. was put off-screen so that only the lightning bolts were any indication of his presence, the challenge could be greatly increased. Of course, to avoid players being taken by surprise, it would be necessary to have the first lightning bolt fall in such a way that Mario cannot reach it before the player sees the explosion. This could be accomplished by adding in a few "criss-crossing" platforms that Mario needs to drop down to by running back and forth - curiously, while both this type of platform and Sumo Bros. appear in Cookie Mountain, they are not used together on the same screen.

Finally, there is Ludwig's castle. I have talked about the red rock background and Ludwig's battle before, so the only thing left to mention at this point is the room containing a spiky ceiling that descends upon Mario until he hits an "ON/OFF" block. This causes the ceiling to retract until it reaches the initial position, at which point the block will flip back to ON and the ceiling will again begin to descend. What this means is that it is always advantageous to wait until the ceiling is as low as possible before hitting the block, as that gives Mario more time to reach the next block since the ceiling will spend more time ascending. While this strategy is counter-intuitive, I do not have any suggestions as to how the mechanic could be improved without adding new code. If that could be done, then simply making the ceiling snap back to its initial position very quickly could equalize the situations and not advantage those where it is very low when Mario hits the block.

With that, Ludwig is defeated. The screen after the victory mentions that "Ludwig's days of composing Koopa symphonies are over", despite nothing about his character outside of his name and hairstyle referencing music at all. In fact, to this day, Ludwig has never been associated with anything involving classical music, even in games where he had important speaking roles such as Mario & Luigi: Paper Jam and Paper Mario: Color Splash. The latter had Huey calling Ludwig "classically-trained" at one point, but not as a reference to any particular part or event in the game.

You may be starting to notice a trend here. I am spending less and less time discussing each subsequent world, because due to the prevalent pre-use of assets before they are appropriate to introduce and the reuse of assets past the point where they are thematically appropriate results in each world having less and less new things to discuss in the first place.

Forest of Illusion, the fifth world, actually shares its name in Japanese with the recurring Lost Woods location from the Legend of Zelda series. The name translates to "Maze Forest", although the official Japanese Super Mario World guide also includes its own translation of the name into English, that being "Mazing Wood". Whether "Mazing" is supposed to be a pun on "maze" and "amazing" or simply a mistranslation of "maze" is unclear. The main gimmick of the Forest of Illusion area is that it is necessary to find at least one secret exit to complete it. Either the secret exit in Forest of Illusion 3 or Forest of Illusion 4 are needed to exit the woods.

If the player finds no secret exits, the game traps them in a loop of Forest of Illusion 1, 2, 3, then Forest Ghost House, then Forest of Illusion 4, and finally back to Forest of Illusion 2. I believe that the environment of a mysterious forest is a great choice to introduce the concept of mandatory secret exits. My only concern is that the concept is not taken far enough; during a normal playthrough, the player will pass only two locations where a secret exit must be taken: Forest of Illusion 3 and Chocolate Island 3. While the concept is used for all the levels in Star World, I believe there could have been a) more instances of it during the main story, and b) more variety than simply backtracking to the last visited level as in the Star World. I think it would have been interesting to have a level's normal exit activate a shortcut to an earlier world, for example. This would have also added a small amount of utility to the wrong exit.

I have already talked about the aesthetics of the background of the Forest of Illusion levels at length, so what is left now is to discuss the foreground. Forest of Illusion 1 and 3 (as well as the Special Zone level Outrageous) use a special set of foreground elements: tree trunks and

a canopy. The canopy is simply a solid green, continuous element covering the top of the screen. It looks a lot like a recolored version of the clouds in the "mountains of clouds" background, but upside-down. The gameplay function of the canopy is to contain berries for Yoshi to eat, although most of them are too high up to reach without the sort of acrobatics that is in my opinion entirely wasted on a reward as minor as berries, which give one coin upon consumption with an extra reward of a Super Mushroom if ten are eaten in the same stage. Some of the berries are pink, which cause a smiling cloud to appear if two of them are eaten, which spits out coins, and if all coins are collected, leaves a 1-Up Mushroom. But even that is jumping through a completely unnecessary amount of hoops, in my opinion, for something the game is giving out for basically free anyway. While I welcome the game putting collectibles in places where the player would have to go out of their way to collect them, I feel making those collectibles amount to "1/10th of a Super Mushroom" is not the best incentive to attempt to go after them.

The canopy and about half of the tree trunks are drawn behind Mario, but the other half is in fact drawn in front of Mario and the rest of the stage, making them actual foreground objects according to the usual understanding of the word "foreground". (I refer to objects that scroll at the same speed as the ground as foreground objects simply to distinguish them from background objects that scroll at a parallax speed; so in order to avoid confusion, I will simply say that the tree trunks are between Mario and the camera.) The tree trunks attempt to obfuscate small slivers of the level, either 1 or 2 tiles wide, from the player's view. Fortunately, the Wigglers populating the levels are slightly wider than 2 tiles, so they remain visible at all times. Smaller enemies do disappear behind the trunks for a few frames, though.

I would personally have preferred more to be done with the idea of hiding objects from view. Here is a scenario I am inviting you to imagine: Mario is approaching a tall pipe that blocks his path. There is a Question Block next to it that Mario can use as a stepping stone to reach the top of the pipe. The act of having to jump first onto the block and then onto the pipe slows him down momentarily. During this moment, a Chargin' Chuck is shown to run onscreen from the right and hide behind one of the 2-tile wide tree trunks. Due to Mario not being able to just run through the section, the Chargin' Chuck has enough time to appear, run perhaps two tiles into the screen while visible, and hide behind the tree trunk. Now it is up to the player to notice it happening and to not run into the Chargin' Chuck behind the tree. This is a very simple scenario; it can be made more challenging by having this happen while Mario is occupied with other enemies, or while he is jumping over a pit, moments where the player is even less likely to be paying attention to anything but Mario. I believe this would have been a good use of the trunks that would not even need additional programming - simply position the Chargin' Chuck in such a way that his first movement (which is always the same length if Mario is far enough away) brings him behind the tree.

What seems strange to me is that Forest of Illusion 3, a level using a very dark palette swap of the forest background, still has the same bright green foreground canopy that has been clearly designed to match the standard coloration of that background. The point can be made that perhaps there is only one palette of the canopy in the code and not every foreground element can be expected to change based on the background; while I agree with the latter, the fact remains that Outrageous in the Special Zone does use a yellow palette of the canopy, as well as darker tree trunks, to match the foreground and the background better. Why this could not have been done for Forest of Illusion 3 is unclear.

Forest of Illusion 2 is a standard water level that features Urchins, one of the few elements in the game I would definitely not miss if it disappeared. Urchins are slow-moving obstacles that can not be defeated by any means, so the only way of dealing with them is waiting for them to move out of the way. This can sometimes be very frustrating due to the slow movement of both the Urchins and Mario himself while underwater. This is of course a highly subjective opinion, but I believe that Urchins are "underwater Thwomps done wrong". The reason Thwomps are such popular enemies is because there is an element of thrill to barely avoiding a Thwomp crashing down onto Mario; since both Mario and the Thwomp are moving very quickly. With the Urchin, narrowly avoiding it is not a matter of reflexes, it's a matter of fighting against the game mechanics that seem to want Mario to move as slowly as possible while underwater. While I don't believe the concept could be salvaged into something as satisfying as the Thwomp, I could at least suggest to make the Urchins smaller so that there could be additional gameplay of deciding to duck if one passes overhead, or an additional advantage for Small Mario to be able to pass them more easily.

The Forest Ghost House uses what appears to be an alternate background in the first room, although this is again a foreground trick similar to the one used in Ludwig's Castle. This Ghost House employs the idea of having objects like Dragon Coins appear "outside" the playing field, although this is of course merely a trick and the black area is still part of the same room, just accessed through a different door.

Forest of Illusion 4 features the Fishin' Lakitu, which then would move on to become a playable character in Super Mario 64 - the Lakitu Bro. that mans the camera is a Fishin' Lakitu, and you control him with the C buttons - which the manual for that game confirms. The Fishin' Lakitu tries to lure the player with a 1-Up Mushroom, which if collected, causes him to become a regular Lakitu instead. From an in-universe point of view, this makes little sense - if the Lakitu can already throw Spinies, why does he not throw Spinies to begin with - but I suppose it can be explained away by the Lakitu trying to lure Mario into jumping into pits in the hope that Mario does not touch the 1-Up Mushroom before dying, as that would make the entire affair pointless.

The Forest Secret Area, unlocked with the secret exit in Forest of Illusion 4, is a level with only two solid platforms - one in the beginning and one at the end. Between them, Mario needs to ride on three-tile-wide winged moving platforms. There is a visual glitch here that can be seen very easily - simply jump on one of the moving platforms and then back onto the solid starting platform. Due to the visual effect of the level's background starting to move to simulate high speed not being designed to stop when Mario is on solid ground, the background will move while Mario is standing completely still on the starting platform; as though the platform itself is moving quickly through the level. I do not know of any easily-programmed way this could have been avoided, so my suggestion would be to simply not make the background move in the first place. I recall getting rather nauseated from the movement myself when I was younger, and I imagine people who played it as even younger children would have had the same or even worse issues with it.

Beating this level unlocks the Forest Fortress, which is unremarkable except for a secret area located behind the boss door that requires Mario to be Cape Mario and fly over a vast expanse of lava with Lava Bubbles shooting out of it. The reward at the end is nine blocks containing 1-Ups, which is in my opinion a much more fitting reward for such escapades than the usual single 1-Up Mushroom the game offers. I believe that for extraordinary displays of

skill or exploration, the player should be given an extraordinary reward instead of things that populate the levels regularly to begin with. This is why I personally enjoy Super Mario Odyssey's policy of hiding coins in extremely hard-to-reach places, with more coins being there if the place is especially well-hidden. Getting on top of an otherwise unremarkable rock in the middle of a poisonous swamp may make 4 coins appear, while getting to the top of a structure that is so high that in any other game it would simply be there in lieu of an invisible wall may reveal stacks comprising 100 coins, a fitting reward.

Finally, getting the secret exit in Forest of Illusion 3 leads us outside the forest to Roy's Castle, which introduces Snake Blocks. Snake Blocks are, in principle, a very clever idea: what amounts to a moving platform on rails except that the platform can change its own shape and the rails are invisible, requiring the player to pay much more attention to the movement of the platform. However, almost every single game in the Mario series that uses Snake Blocks makes what is in my opinion the same mistake: it overindulges in making the Snake Blocks go backward. I understand that the purpose of the Snake Block is to be unpredictable, but would you not yourself agree that if you see it circling around and going the opposite way, it feels like the game is trying to waste your time? I believe the exact same level of challenge could be created by simply making the Snake Blocks go up and down more and - if absolutely necessary - go back only a few tiles at a time. There is in my eyes no need to make the Snake Block go back half a screen or more for any reason outside of dragging out the segment to the detriment of the enjoyment of the player. Roy himself is basically Morton but with the ability to move the walls of the arena closer twice in the battle, which is not nearly enough distance to make the battle significantly more challenging. If the walls were closing in constantly from the beginning, giving the fight a sense of urgency, it would have been in my opinion much more memorable, although I understand if this would have been impossible for technical reasons.

Defeating Roy shows a victory screen where the game tells Mario "Onward to the dangerous (but tasty) Chocolate Island!" So the game admits that Chocolate Island is made out of chocolate - which raises the question of whether any other areas with food-related names are also made out of that respective food. Donut Plains, Vanilla Dome, Cheese Bridge, Butter Bridge and Cookie Mountain all could be argued to be constructed from those foods, but in my opinion, they do not look to be made out of any nonstandard materials. Butter Bridge specifically does not look like it contains anything even closely resembling butter, as butter is near-universally depicted as being white, yellow or beige and there are no graphics in those levels with those colors. Of course, this proves nothing, but I personally find the discrepancy between Chocolate Island seemingly being confirmed to be made out of chocolate while other areas seem to merely be named after food to be very confusing.

Chocolate Island 1 is a standard level that looks straight out of Donut Plains, with no chocolate graphics and only Dino Rhinos and Dino Torches being present as new additions. However, this is indicated by the overworld map - the level takes place on a green island that is merely adjacent to the actual Chocolate Island; although it makes it unclear to me why it was not given a different name instead.

Upon completing Roy's Castle, a world map cutscene plays where the island containing Chocolate Island 1 sinks into the ocean, only to be replaced with a slightly larger island. To this day, I do not know what the cutscene is supposed to signify. I suppose that this is merely a whimsical way of showing that Chocolate Island is now accessible, except that instead of

building a bridge, an island makes a land bridge appear.

The first level that actually is located on Chocolate Island proper is Choco-Ghost House, the second ghost house level in the game without a secret exit. It features moving holes in the floor, which to me are a fascinating and sadly very underutilized feature - imagine these obstacles appearing in more different locations; I believe they could have been used for very challenging platforming segments. The concept took 20 years to come back, with Mattermouths that create holes in the floor appearing in Super Mario Galaxy 2. Another thing this level features is the Fishin' Boo, a variant of the Fishin' Lakitu that is invincible and holds a damaging fire instead of a 1-Up Mushroom at the end of its fishing line. This is a much more logical usage of the fishing line as a weapon and I personally am glad that the concept of the Fishin' Lakitu was reused in this manner to create a more dangerous enemy.

This Ghost House may as well be called the "cemetery of intriguing ideas", as another underused enemy, the Boo Block, appears here. The Boo Block behaves exactly like a Boo in that it moves toward Mario when he looks away, however, when Mario looks at the Boo Block, it turns into a block Mario can stand on. This is used here to make a stepping stone towards the level's exit, but again, there could have been so much more that they could be used for. Of course, being an enemy that is always drawn to Mario, they suffer from a game design issue known as "bunching". If many enemies are present in a scene, but all of them have the same behaviour of always moving towards one specific spot, then they will inevitably get closer and closer together, with two outcomes: a) if the enemies have no physics engine that lets them repel each other, they will eventually all occupy the same spot in space, i.e. completely overlap each other; or b) if they are disallowed from occupying the same spot in space, they will crowd together and make an inseparable "bunch" that essentially acts like a bigger version of one enemy. Neither of these are particularly desirable, so my suggestion would be not to use several Boo Blocks at once, but rather to use a single Boo Block that must be guided to a precise spot through terrain filled with obstacles.

Next up is Chocolate Island 2, which may well be the most creative level in the game. It consists of nine segments, which are divided into a starting segment, the first group of three, the second group of three, and a final group of two. Depending on how many coins Mario has collected in the starting segment, a specific segment from the first group will be loaded when Mario passes through the pipe at the end. After passing the segment from the first group, the remaining time on the timer decides which one from the second group is loaded. Finally, after passing through that segment, the amount of Dragon Coins collected throughout this entire affair determined which one of the final group is loaded at the end. Interestingly, both of the final segments contain a goal tape unlocking the normal exit. The secret exit is actually inside one of the second group's rooms, particularly the one that is loaded if the timer is 250 or above when completing the first group; this means the player must be very quick to reach the secret exit, which makes this the only level where the secret exit can only be reached if the player is fast enough.

What is strange to me is why the designers decided for this gimmick to be present in an overworld level, when it seems to be so suited for a ghost house instead; although with the amount of gimmicks in the game, too many of them could be argued to fit into ghost houses and in the end, the result would be a third of the game happening inside a ghost house. (Not that this would be a bad idea; after all, Luigi's Mansion and Luigi's Mansion 2 are successful Mario-related games taking place entirely within ghost houses of various kinds.)

Getting the secret exit in Chocolate Island 2 unlocks Chocolate Secret, which is yet another level that previews Valley of Bowser. If this is the first time the player sees that world, the surprise is slightly less than if they had seen it with Donut Secret 2. However, if the player had already seen it before and then gets to preview it a second time, I would say this creates a well-executed rising sense of tension. The player knows they are in the area with Castle 6, and Castle 7 is right in front of them, which tells them the time to enter this world through the regular entrance is fast approaching. As for Chocolate Island 2 itself, it is a regular cave level indistinguishable from Vanilla Dome 3 in its aesthetic, with the only notable feature being slopes that are so steep that Mario's sliding animation fails on some parts of them, resulting in him falling down the slope instead of sliding.

The next regular level, Chocolate Island 3, is the debut of the Chocolate Island-exclusive mountain background. Unfortunately, it is only used here and in Chocolate Island 5, and it does not have a brown palette in either of these instances, meaning that we have a curious case of a background debuting in Chocolate Island, being exclusive to Chocolate Island, but not actually looking like chocolate. I have already mentioned earlier that this is the level that teaches the player that goal tapes can be passed from below by making it mandatory to discover the level's secret exit. The way the world map indicates this to the player is rather humorous: upon completing the level with the regular, "wrong" exit, a path appears that leads Mario in a wide circle directly back to the level. While many other instances of a path leading Mario back exist, only this one leads back to the exact same point as the one Mario started.

Next up is the Chocolate Fortress, which features stakes extending and retracting into the floor. Chocolate Island 4, the level after the fortress, is another underground level that looks straight out of Vanilla Dome with the difference that the lava is recolored brown, presumably to represent boiling hot chocolate. The entire level is made out of slopes, but the one part that is not a slope is notable for being able to kill Mario instantly. At the very beginning of the level, there is a 1-tile high vertical tunnel segment before it starts being diagonal. As Small Mario, jumping into the top right corner of that tunnel will instantly kill Mario due to a glitch.

Chocolate Island 5 seems to me like a level where minor ideas were put just to they would not get unused. The concepts on display range from "Spinies encased in blocks that disappear when a P-Switch is pressed" to "being bombarded by enemies with parachutes over a mid-level water section" and "jumping over moving pipes". While Chocolate Island 3 is very deliberate with exploring a single mechanic - platforms rotating around a pivot - Chocolate Island 5 does not seem to have a unifying theme. To me, this level could have very easily been broken up into three bonus rooms for other levels. Interestingly, it is also the only level ending in the number 5 that the player would see during the main story of the game, hinting that perhaps Chocolate Island had been going on for a little too long at this point.

Finally, after beating Chocolate Island 5 (or Chocolate Secret), we arrive at Wendy's castle, which specializes in Skewers and Grinders, mechanical obstacles. This makes me think about how castles in 2D Mario games almost never match up with the personalities of the Koopalings that inhabit them. There is nothing about Wendy's characterization that in any way suggests she prefers mechanized obstacles to normal troops, and neither do the other castles in the game fit whatever characterization was available for the Koopalings at the time. This is not really a criticism of Super Mario World per se, as the Koopalings were not fleshed out at that point, but rather a statement of how Nintendo has not been very diligent in attempting to

make up for this in later games, where the Koopalings have already been given more definite personalities. A notable aversion is Lemmy's castle in New Super Mario Bros. Wii, which uses Lemmy's balls as obstacles in one part of the level. I only wish this sort of consideration happened more often.

The battle against Wendy is identical to the one against Lemmy with the differences being that the pipes are now all at the same elevation and there are now two Lava Bubbles instead of one. Still, Wendy herself does not attack. After defeating her, the victory message states that she "had sung her last song", again something that is in no way related to the gameplay, just like Ludwig's message. The text tells Mario that "a sunken ship appears to be the gateway to the Valley of Bowser".

The Sunken Ghost Ship is mentioned by the manual to be one of the flying Airships from Super Mario Bros. 3. However, this is where all explanations end, and baseless theorizing must begin. Why did the airship crash? Why is it full of ghosts? Are the ghosts perhaps the crew of the airship that perished in the crash? Why is the ship guarding the entrance to the Valley of Bowser? What even is the Valley of Bowser? Let us start with the last question.

The Valley of Bowser appears to be a very large cave under the entirety of the portion of the sea in the middle of Dinosaur Land. If we look carefully at the position of the pipes leading to Donut Secret 2 and to Chocolate Secret, we see that their relative positions almost exactly match up the relative positions of the respective pipe pairs within the Valley of Bowser. This is, in my opinion, a deciding argument in favor of believing that the Valley of Bowser is directly underneath Dinosaur Land, as otherwise the designers would not have felt the need to match up the pipes so precisely. However, this raises additional questions.

If the valley is underground, why is it called a valley instead of a cave? If Bowser only arrived there relatively recently, as indicated by the manual saying that the events of the game happened immediately after Super Mario Bros. 3, then why is the valley named after him? Perhaps he simply claimed it for himself, but then what was its name before he arrived? And most importantly, why is there lightning if the entire place is underground?

The last one can actually be explained by physics from the real world, if we are willing to believe that obscure physics went into the designers' decision-making. It turns out that if a large enough indoor area is not well-ventilated enough and contains sources of moisture (like, say, the breath of animals or people), then given enough time, clouds will form inside the structure and it will eventually rain. It is not a stretch to say that the cave, if it is large enough to hold several castles with vast stretches of land between them, would be more than big enough for this sort of thing to happen, and given enough ambient electricity, there could even be thunderstorms. Of course, the main argument against this is that large structures are almost never shown to have indoor weather in cartoonish material, so none of this is conclusive evidence one way or the other.

Let us take a look at the Sunken Ghost Ship very closely. It consists of three areas: the outside of the ship, below deck, and a very tall, narrow vertical room through which Mario must fall to the bottom. The outside area uses a dark palette swap of the usual underwater background, and though it is hard to tell, is actually shaped like the bow of a ship. (This is one of those things that are immediately obvious when looking at a full-view map of an area, but is much harder to tell with the limited viewport in-game.) Curiously, on the world map, the bow of

the ship is shown to be above water, meaning that Mario is actually entering the stern.

The second room, inside the ship, contains a special variety of Boo crowd that instead of swooping down as in the Donut Ghost House, simply hovers in place. This room uses a unique background depicting rotten planks with portholes; usually I would comment on how this would be underusing it, but I have to concede that there is literally no other place in the game where it would fit. Going down a pipe at the end deposits Mario into a room without water, where he falls for a very long time until he reaches a small pool on the bottom with a unique item: the Question Ball, or Magic Ball. The Magic Ball is the same item Boom Boom boss battles drop in Super Mario Bros. 3, further cementing the connection between the games - although note that it was not entirely accurate to put it into a sunken airship as airship levels in Super Mario Bros. 3 never contained a Magic Ball - it was exclusive to fortresses. A more true-to-the-source way of referencing the game would be to put a magic wand at the end, although that would open up questions about whose wand it would be, as all wands in Super Mario Bros. 3 were stolen from kings of various kingdoms.

For being the last story-relevant world in the game, there is very little to say about the levels in Valley of Bowser. To me, the entire world feels like "Revenge of Vanilla Dome". The narrow passages in Valley of Bowser 1 are repeating the idea from Vanilla Dome 1, Valley of Bowser 4 is a lava level in the vein of Vanilla Dome 3, and Valley of Bowser 3 uses the exact same foreground tileset as Vanilla Dome 4, but with a regular cave background instead of the Star World one. I've already mentioned how Valley of Bowser does not introduce a single new background despite being the climax of the game's story, something that comes about as a result of the game's constant need to pre-use assets.

Super Mario Bros. 3 did not have a dedicated cave world, which is why I believe the designers of Super Mario World wanted to compensate, but I believe they definitely overcompensated by making 2/7th of the game's story take place inside caves - and I am saying this as a big fan of caves in Mario games. My favorite Super Mario 64 course is Hazy Maze Cave, and one of my only disappointments with the world choice in Super Mario Odyssey was the lack of a cave world (of course, the Snow Kingdom could very loosely be considered a cave world, but it is definitely not the primary theme of that world.)

Here is how I would have at least attempted to give Valley of Bowser its own identity with a minimal amount of effort: recolor the small pools of water in the Valley of Bowser world map red to resemble lava, and palette-shift the walls from greyish-blue to greyish-red. Then create a red palette swap of the cave background and use that for all Valley of Bowser levels. While this can definitely be called "creatively bankrupt" as it would be blatantly retreading Dark Land from Super Mario Bros. 3, at least it would distinguish the game's two cave worlds from each other. Also note that four of the levels in the world contain lava, while the only appearance of water outside bonus rooms and the water segment of Bowser's castle is a tiny four-tile wide pool in Valley of Bowser 1. If that pool is removed, there is no point to even have water on the world map to begin with, and replacing it with lava would make much more sense.

The Valley Ghost House has a striking white interior that is merely a creative palette swap of the usual ghost house background. It is the culmination of the game's ghost house shenanigans and features a truly difficult puzzle: the Coin Snake secret exit. The Coin Snake, also known as the Control Coin, is an item that is controlled by the D-Pad and leaves behind a trail of coins - however, just like in the famous early video game "Snake", making the coin

touch any object - including coins it left behind itself - results it in self-destructing. The concept itself is rather simple - but what makes the Coin Snake notoriously frustrating to control is the fact that Mario is still responding to the player's inputs even though the player is intently concentrating on the Coin Snake.

In the Valley Ghost House, the Coin Snake must be used to create a staircase to a high platform - but Boos are also present in the same room, which leads to a challenging situation where the player must control the Coin Snake while also avoiding the Boos. Normally, Boos are not extremely hard to avoid - but pressing any input that would cause the Coin Snake to go off in an undesired direction is all too easy if this situation is not thought out very carefully.

In Valley of Bowser 4, the secret exit is unique in that it acknowledges Yoshi's seemingly illogical ability to stick his tongue through solid objects. The key is in an alcove that is completely blocked off and inaccessible from any side; but close enough to the wall that Yoshi can lick it up through the wall. While I admit this is clever, it may not occur to people who have not played many video games before to try this as without a grasp of common "video game logic", it does not seem logical that Yoshi would be able to do that. It's one thing to see his tongue go through walls in the normal game - it is easily assumed that it would be simply too much trouble for the developers to program the tongue to stop at obstacles - but it is another thing to realize that it is not merely a visual issue but a legitimate mechanic.

If this decision was up to me, I would have replaced the wall with two spikes - one facing up and one facing down. Mario would not be able to get past them as they count as a wall, but it would be much more logical to assume that Yoshi can stick his tongue through the gap in the spikes than through a completely solid wall.

The ideas that the designers had for castle levels have run dry at this point in the game. Valley Fortress is another gauntlet of skewers just like Wendy's Castle and Larry's Castle is another Snake Block trip, but with additional Ball and Chains. Larry's battle is exactly the same as Iggy's except Lava Bubbles come up out of the lava. Defeating Larry does confirm that the giant neon castle is called Bowser's Castle, although the name of the area on the world map is "Front Door" (or "Back Door" if entered through the Valley Fortress.) - although in the Japanese version, the names of the areas are "Bowser's Castle Front Door" and "Bowser's Castle Back Door" respectively.

Bowser's Castle consists of two enemy-less "choice" rooms, each leading to a set of four "challenge" rooms, and the final dark room before the Bowser battle. The final room is also where the Back Door entrance deposits Mario; skipping the challenge rooms. While the idea of eight challenge rooms seems daunting, Mario only needs to complete one of the first four and one of the second four; in a way, Bowser's Castle is a very "polite" level as it gives the player much more choice in how to approach it than any other level in the game. Interestingly, the further the door to the challenge room is from the entrance of the choice room, the longer the challenge room itself is. As such, Challenges 1 and 5 are the shortest, followed by 2 and 6, then 3 and 7, and 4 and 8 being especially long. As there is no bonus to completing the longer challenges, they seem to only exist for players who want to make the level harder for themselves.

In terms of aesthetics, the notable parts are the choice rooms, which are illuminated very brightly in the same manner as the Valley Ghost House with a white palette swap of the

column background, and the unique "green banner" foreground tiles in Challenge 3. The banners are the only other object except for the tree trunks in the forest levels that are between Mario and the camera, and as such obscure platforms and enemies. I feel like this challenge room could have very easily been expanded to a full fortress level; but I also admit that solving that room would rely too much on trial and error the first time and memorization the subsequent times, which may be contrary to how the designers envisioned the game to play.

Finally, the dark room before Bowser contains a unique mechanic: the Disco Ball. It hangs down from the Held Item box in an amusing display of fourth-wall breaking, and is activated by jumping into a red Question Block. Once active, it projects a ray of light downward to light the way. This reveals Ninjis in the room - as without the light, their almost entirely black bodies blend into the darkness. Why the designers decided to leave a completely original mechanic and a new enemy to the very final room in the final level is unclear, although it certainly does make it very memorable to me.

Entering the door at the end of the dark room transports Mario into the final boss battle, which is again unique from all previous battles - and areas of the game in general - due to a complete absence of the heads-up display save for the Held Item box. This is in my opinion brilliant design - the much cleaner look of the screen with the heads-up display gone lends itself well to the gravitas of a final battle; plus, it is also a clever way of showing that the time limit has been removed from the level without literally setting the timer to 0. I wish Mario games used this kind of special even heads-up display removal more often; my go-to example for on-screen information being detrimental to the mood is in the World of Nothing segment in Super Paper Mario, when Mario must walk across the ruins of a destroyed world as disturbing music plays, but the stark emptiness of the world is not being done favors by the bright squiggles that undeline the score on top of the screen. If all text was removed only for that screen, I believe the effect could have been that much more dramatic.

The boss arena has a very simplistic design. It is simply the top of a castle tower with a low, unobtrusive battlement and a completely black background that lights up with lightning every few seconds. This is, of course, a reference to the lightning on the Valley of Bowser world map; my only wish would be that the lighting were used in other parts of the world, although I realize using it in conjunction with any background that is not completely black may have been technically impossible. Immediately after Mario enters, the Koopa Clown Car begins to slowly descent from the top right of the screen, and finally upon reaching the correct elevation, Bowser appears from inside it.

The battle has three phases. Each phase can be passed by hitting Bowser with two Mechakoopas, which also makes this the only battle in the game where a single boss character can take more than 3 hits (Reznor technically takes 4 hits total, but only a single hit per individual dinosaur). Between phases 1 and 2, as well as between phases 2 and 3, there is an intermission where the Koopa Clown Car uses Mode 7 to fly towards the screen, whereupon unique flame sprites fall from the ceiling, covering the entire stage, but leaving 1-tile wide gaps for Mario to avoid them. After these disappear, the Koopa Clown Car returns, with Princess Peach briefly appearing from within it, screaming for help and ejecting a Super Mushroom for Mario to take. Then, Bowser emerges again and the next phase begins.

Phase 1 consists of the Koopa Clown Car simply flying in a shallow upside-down arc from left

to right; it flies down to the third tile from the ground on its lowest point, which is just far enough from the ground to not hit Mario unless he jumps into the spinning propeller. After swaying a few times, Bowser will eject two Mechakoopas from the clown car, which Mario must stun and then throw upwards in such an arc that they hit Bowser on the way down rather than up (or at least from the side as Bowser is moving into it), as hitting the Koopa Clown Car from below does not register as a hit. (I must note that this is the expected way of doing things; experts at the game know that a very specific positioning does in fact allow Bowser to be hit from below due to imprecise hitboxes, but a first-time player is unlikely to encounter this and even less likely to be able to exploit it.)

Mechakoopas are enemies that first - and only - appear within Bowser's Castle and are designed specifically to be the enemy that is used to bring down Bowser. This marks yet another entry in a series of Bowser battles that are won entirely through Bowser's own bad judgment - why is there an axe at the end of the bridge in Super Mario Bros.? Why does Bowser keep ground-pounding the brick floor if he is capable of other attacks in Super Mario Bros. 3? Why are there seemingly pointless bombs scattered around the arena in Super Mario 64 that Bowser does not even attempt to use against Mario? And so on. Mechakoopas are, from a gameplay standpoint, essentially Goombas (or Galoombas) that are twice as large and have a very short stun reset timer. Whereas Goombas in this game stay stunned for a long time, Mechakoopas need to be restunned every 3-4 seconds lest they turn functional again.

In the second phase, Bowser starts reacting to Mario's movement by hovering roughly over Mario's position in his clown car. Instead of immediately ejecting Mechakoopas, he turns over the Koopa Clown Car, which emits a metal bowling ball-like sphere called a Big Steely, another asset unique to this battle. The Big Steely simply rolls towards Mario and disappears once offscreen. This happens twice until Bowser ejects the Mechakoopas again. Obviously, now he is harder to hit as his movement is designed to block the throws by hovering over Mario. It is necessary to quickly move to the other side of the arena and time the throw in such a manner that Bowser moves under the Mechakoopa as he attempts to catch up with Mario.

Finally, the last phase has the Koopa Clown Car change to an angry expression before starting to stomp around the arena. There are only four places the Koopa Clown Car can land due to moving in fixed arcs; particularly, the middle of the stage is entirely safe and Mario can just stand there without getting hit until Bowser stops to eject the Mechakoopas again. More challenging than avoiding being stomped by the clown car is stunning the Mechakoopas and picking them up before they are stomped themselves; this is a rare example of enemies being able to defeat each other, known as "friendly fire"; which I believe is used to great effect to make the final phase of the boss that much more difficult.

When Bowser is given the sixth hit, the Koopa Clown Car will emit a few puffs of steam, then turn upside down as Peach slowly descends from it. Bowser spins into the background and disappears into the darkness while Peach and Mario approach each other and Peach kisses Mario. A text message which for an unknown reason uses a completely different font to the rest of the game slowly appears on the top of the screen, stating that Mario's adventure is now over, and that Mario, Peach, Yoshi and Yoshi's friends are "going to take a vacation", which is exactly what Mario and Peach came to Dinosaur Land for in the first place. (The exact same scenario is later reused in Super Mario Sunshine.)

Then, fireworks briefly appear, which I feel was just another way to reuse the lightning already programmed for the scene (and do not entirely seem to make sense from an in-universe perspective - who would be lighting them? There are no friendly NPCs in the entire Valley of Bowser, so the only explanation would be Bowser's own minions somehow being either glad or at least relieved that he has been defeated. Perhaps being confined to a cave on the bottom of the ocean resulted in them wanting it all to be over as quickly as possible, which would be entirely understandable.)

The credits start to roll over a scene of Mario, Peach riding Yoshi, and the seven eggs Mario rescued in the castles walking to the left (even in cases where Mario skipped over some castles to reach the end; the credits do not react dynamically to the eggs being missing). As they walk, the backgrounds behind them change, presumably to reflect them walking all the way back from Valley of Bowser to Yoshi's Island. Let us look at the backgrounds.

The first one is the standard grey "large blocks" castle background first seen in Morton's castle. It appears in the final room before the Bowser battle, as well, so it makes sense that it would be the very first location the party would have to go through, as they would need to exit the castle first. Then, the background changes to the mountains seen in Chocolate Island 5. As Chocolate Island 5 is the only level using that exact background, there is no ambiguity here that the party has skipped the rest of Valley of Bowser and is now on Chocolate Island.

Next, the background changes to the generic forest background seen in Yoshi's Island 2, but given the obvious implication of the party returning through all the worlds, can be assumed to be the background of Forest of Illusion 1 instead. After this, the background changes to the "mountains of clouds" from World 4, but with a shade of blue in the sky above the clouds that is seen only in Cookie Mountain and Vanilla Secret 3, and not in any of the actual bridge levels.

As all eggs are present, it is likely the game does not assume that the player has beaten Vanilla Secret 3, as that would skip the third egg, so more likely than not, the background represents Cookie Mountain. After this, however, the background sequence stops making sense, which to me is tragic as it has been doing relatively well so far. In particular, it shows the background with the tall semicircular-topped blue hills which can be seen in Yoshi's Island 1 - but with a palette that does not appear anywhere else in the game. That background is pretty much exclusive to Yoshi's Island - it only appears in one Special Zone stage and one bonus room in Donut Secret 2 outside of that world - and even then not with that palette.

The logical continuation of the sequence would have been a Vanilla Dome background, so it is my proposition that perhaps the credits were made earlier in development when some Vanilla Dome levels - likely Vanilla Secret 2 or 3 - had that background. Although, given what we will see next, it is also equally likely that the designers simply gave up, as the background after this is...

...the demo level, Groovy from the Special Zone. As it is very unlikely that the designers intended to imply that Mario, Peach and Yoshi are literally walking back to Yoshi's Island through the Special Zone, this background could not have been chosen as anything but a reference to the title screen, which completely throws out all pretense of accurately depicting their journey back. Finally, the last background is yet another unused palette, being the low

hills from Donut Plains in a color combination that seems to be a cross between Donut Plains 1 and Donut Plains 4. After this, the party arrives at Yoshi's house, where the eggs hatch into seven baby Yoshis of various colors.

So, let us try to imagine from an in-universe perspective what is happening here. Mario, Peach, Yoshi and the eggs walk down Bowser's castle, out the Valley of Bowser, through Chocolate Island, through the Forest of Illusion, through Cookie Mountain... then get absolutely lost on the way and end up in locations Mario has not even visited on his journey. They literally end up in unused backgrounds and the title screen, which while a very amusing bit of visual comedy, in my opinion completely clashes not just with the tone of the scene, but with the first part of that very same sequence.

After the scene at Yoshi's house, the rest of the credits plays, showing most of the game's enemies with their names. Notably, it shows Torpedo Ted, which the vast majority of the players would not have discovered during their first playthrough as it is exclusive to Soda Lake, a secret level. I have personally read testimonies of fans only going back to replay the game and find secret exits because of seeing Torpedo Ted in the credits and being intrigued, so I have to say including it here may be the most clever trick the game employs, and given how many times I have said in this podcast that something is a clever trick, this is quite an achievement.

All that is left now is extra content in the form of the Star World and the Special Zone. I have already discussed the aesthetics of the Star World before, so let us just focus on the gimmicks displayed in the levels therein. Star World 1 is yet another cave, but this one employs a very large number of Rotating Blocks, presumably to offer a level where the player can freely engage in the activity of destroying them by Spin Jumping. Doing this with the Cape Feather reveals a glitch in the Rotating Block programming that I believe most people have discovered accidentally: by pressing Down and Left or Right at the same time during Spin Jumping through the blocks as Cape Mario, Mario can clip through large numbers of blocks accidentally. What makes this glitch harmful is that if Mario clips in such a way that he touches one of the soild walls on the sides of the level, he will be crushed in a manner similar to what happens in autoscrolling levels, and die. The solution to this is to only press Left and Right while destroying the blocks, and to never hold a single direction for too long.

Star Worlds also feature colorful Yoshi eggs. Instead of hatching immediately into an adult Yoshi as the Green Yoshi Eggs in the main story, these hatch into Baby Yoshis that need to be fed five objects (mainly enemies) before growing into an adult form. The differently-colored Yoshis all have the ability to treat all Koopa shells in their mouths as though they were of the color that matches the Yoshi in question. This means that Red Yoshis always spit fire when spitting out a Koopa shell, Yellow Yoshis always get a stomp attack with a Koopa shell in their mouths, and Blue Yoshis gain wings as long as they are holding any shell. I find it almost comical how incredibly unbalanced the usefulness of the Blue Yoshis is compared to all other Yoshi types; in fact, Blue Yoshis existing obsoletes every other Yoshi to the point that a player aware of the existence of Blue Yoshis may get angry at the prospect of having to use another Yoshi color.

Interestingly, the only Blue Yoshi egg in the game is in Star World 2, which features no Koopa shells whatsoever, so the player must draw the conclusion that the Blue Yoshi must be able to fly by themselves as nothing around the Yoshi would let them discover it naturally. The fact

that the Blue Yoshi is found in an underwater level seems to wrongfully suggest that its special power is somehow tied with water, which could not be further from the truth. To me, it seems like the extreme rarity of the Blue Yoshi combined with the game's several layers of obfuscation regarding its abilities were meant to only reward the best players with the ability to freely fly around. Of course, by the time the GBA remake was released, the colorful Yoshis were not a secret anymore, leading to that game giving away all Yoshi colors freely outside of the Star World.

Star World 3 is the shortest regular level in the game (regular meaning containing a goal tape and a timer, as opposed to Yoshi's House and the Top Secret Area), being exactly two screens wide. The ground is made almost entirely out of Grab Blocks, and a skilled enough player could remove all of them using the provided Lakitu's Cloud, leading to the level becoming one big bottomless pit. I wish doing this somehow garnered a reward, but I am at a loss of how this could be implemented without writing new code.

Star World 4 and Star World 5 require - or at least strongly suggest - that the player should have unlocked all the Switch Palaces. Of course, with the help of Cape Mario or especially the Blue Yoshi, it is possible to reach the secret exits without having any of the Switch Palaces active, but doing so is among the harder challenges in the game. Completing Star World 5 normally differs from completing any other Star World level normally in that a new path will actually be unlocked, leading from Star World 5 to the Star Road in Donut Plains. In contrast, all other Star Worlds simply make Mario walk back to their respective Star Roads without unlocking anything if their normal exit is used.

This should hint to the player that there is something special about Star World 5. Completing that level's secret exit unlocks a new Star Road on top of the big hill in the middle of the Star World map, which leads to the game's biggest secret, the Special Zone.

Many mysteries surround the nature of the Special Zone. Where is it? While the Star World has been confirmed to be high in the sky above Mario's world by Super Mario RPG, the location of the Special Zone remains unknown. While the map screen suggests it is suspended in a dark void, the actual levels use backgrounds that are either already used in the game or palette swaps of them, but none appear to be set in the same void as the world map. Here are some facts about the Special Zone that are mostly common knowledge but I will still bring up for the sake of completion: the colorful logo on top of the map screen is the Super Famicom logo. Why it was not changed from the colors of the Super Famicom controller buttons to the mauve and purple of the SNES controller's buttons is unknown. After waiting exactly 2 minutes on the map screen, the music will change to a remix of the Super Mario Bros. main theme, the only instance of that theme playing in the game.

The Special Zone is essentially a straight path connecting two Star Roads, one that the world is entered by, connecting to the center of Star World, and another that goes to Yoshi's Island and is the game's only one-way Star Road. Of course, putting a simple one-way warp back to the beginning of the game at the end of the secret world would be a terrible reward, so there is an extra change that takes place when that Star Road is taken. The entire world map's palette shifts so that green hues become brown, and brown hues become green. This results in most of the map looking like the autumn season, while Chocolate Island becomes moldy. In addition, three of the enemy types receive new graphics: Jumping Piranha Plants become jack-o'-lantern-themed Jumping Pumpkin Plants, Bullet Bills become Pidgit Bills in a curious

reference to Super Mario Bros. 2, and the biggest change of all: Koopa Troopas now wear Mario masks instead of shells.

The GBA remake explains the entire cutscene as Luigi distributing Mario masks from a hot air balloon, whereupon Koopa Troopas find them and wear them. This, of course, does not touch on the autumn transformation, the other enemies changing or even what Luigi's motivation for this is. Did he believe Dinosaur Land sorely needed to be decorated with masks depicting not just Mario and himself, but also yellow and blue versions of them?

On the topic of unanswered questions, why are the levels in the Special Zone named after slang terms? In the original Japanese version, each pair of subsequent levels share a name, so there are only four different names, translating to "Fun Course", "Mario's Staff is Just As Surprised Course", "Specialists Only Course" and "Championship Course". In what I would wager most players would consider ironic, Tubular is called "Fun Course" instead of having one of the later, more intimidating names which would befit what is in my experience often described as the most challenging level in the game.

Another mystery is why the path between Awesome and Groovy goes off-screen. Mario reappears very quickly after leaving the screen, but what could possibly be beyond it? This and all other questions regarding the nature of Special Zone will very likely never be solved as I imagine it was never intended to be part of the world to begin with and is instead just a part of the game that acknowledges its nature as a video game and does not attempt to tie it in with the happenings of the plot.

The first level, Gnarly, uses the cloudy background and consists mostly of trying to get over a six-screen tall wall with a Warp Pipe on the other side. It reuses the idea of Yoshi being able to grab objects through walls by putting a Blue Koopa on the other side of it; so if the player enters the level with Yoshi, the Blue Koopa can be licked up and getting over the wall becomes trivial. This level also has a minor recurring theme of "excess"; there are 8 Dragon Coins here instead of the usual 5 (with each subsequent one giving another 1-Up) as well as three P-Switches next to each other.

Next comes Tubular. I have said many times by now that Tubular has a (near) unique background, so I will not repeat this. However, I have not talked about Tubular's gameplay. The level consists of trying to maneuver Mario around a field of obstacles in mid-air, without ground below him, under the influence of the P-Balloon. The P-Balloon runs out fairly quickly and needs to be replenished three times during the course of the level by hitting Question Blocks from below and then very quickly catching up with the escaping balloon. Together with very tightly clustered projectiles from various types of enemies and the fact that out of any Mario form in the game, P-Balloon Mario has the slowest speed and response time to input, Tubular is widely regarded as the game's hardest level according to some reviewers and its worst level according to others, at least in my experience.

Here is one thing I would have changed to make the level slightly more bearable without even needing to move around any of the enemies and obstacles: simply change one line in the code of the P-Balloon power-up that would allow Mario to keep it when he is hit, instead simply powering down as usual but continuing to float. In other words, make Balloon Super Mario turn into Balloon Small Mario when hit, instead of depriving him of the balloon power and plummeting him into the pit. This would solve several problems at once: first, now players

can simply go to another level and stock up on power-up, essentially giving them 2 extra hits assuming they are able to catch the item falling from the Held Item box, and 1 extra hit otherwise. It would also get rid of the strange and unintuitive reverse relationship between Mario's power-up status and the P-Balloon; Mario being Super Mario gives him a disadvantage instead of an advantage when in balloon form due to him simply being a larger target. This goes so far that if you enter Tubular as a powered-up form, it may be prudent to simply kill Mario and restart the level as Small Mario, as the chances of making it through the level as any powered-up form are very slim.

Next up is Way Cool, a level concentrating on Fuzzies on rails in front of a Yoshi's Island background (and the level most closely resembling the Yoshi's Island background that the party passes in the credits; although not precisely). A moving platform is ridden on a rail that can be changed with ON/OFF blocks. The choice making the level the easiest is ON, ON, OFF, ON, as it takes Mario to a small bonus room that ejects him more than halfway through the level. Yoshi can be used to make the entire level more or less harmless, as Fuzzies can not harm Mario while on Yoshi and there is a Question Block containing Yoshi Wings right next to the pipe ejecting Mario after the small bonus room, leading to a large bonus room that finishes the level upon completion. Doing all this essentially turns the level into a prolonged bonus experience, which admittedly is a welcome change after Tubular.

The fourth level here, Awesome, is the game's only overworld ice level. It uses a blue palette of the geometical mountains background, a special blue soil color, a special blue water color, and even unique mauve foreground objects resembling aqueducts. It seems that the developers had all the elements in place to create more ice levels in the overworld, but for some reason decided against putting any in the game's main story. This is also the final appearance of both Rexes and Banzai Bills, as discussed earlier. These enemies appear together in the game's first level, are completely forgotten for the vast majority of it, only appearing once each in small numbers towards the end, and are finally reunited for a level that seems to be a monument to underused features of the game. In my opinion, a sad, but fitting end.

The fifth level is Groovy, the intro level, which I have discussed in its entirety prior. After this comes Mondo, a level set in yet another variation of the Chocolate Island mountains that are not chocolate-colored, being green. Mondo seems to be a reference to Super Mario Bros. 3 as it uses two elements that were common in that game: black Muncher plants and rising and falling water. In contrast with the tide levels in Super Mario Bros. 3, the water in Mondo also contains a current pushing Mario to the left, making it much more challenging to get through. It may even be more practical to simply wait for the water to subside instead of trying to swim through it with the extremely sluggish pace Mario assumes when swimming against the current. If I was designing this level, I would not make the water drain completely, but also not include the current. The tide deserves to be a larger part of the experience, but the current does not add much other than unnecessary frustration in my opinion.

The seventh level is Outrageous, also a fairly challenging level due to a very high incidence of enemies, containing Bullet Bill Blasters, Jumping Piranha Plants that spit fire, Amazing Flyin' Hammer Bros. and even the only appearance of Fire Snakes in the game. Here, they act differently from their Super Mario Bros. 3 appearance by leaving small flames behind after they jump (the small flames resembling Hot Feet, another enemy from Super Mario Bros. 3). The level uses another dark version of the forest background, which unlike Forest of Illusion

3, also comes with its own palettes for the canopy and tree trunks. It is unclear why this level got this special treatment while a level necessary for the story has the clashing green canopy with the dark forest background.

Finally, we arrive at the last level in the game - Funky. Funky is special for many reasons. It is the only level to use a unique "combination low hills and clouds" background, which while unlike any other background in the game, is also made up of parts of existing backgrounds, so it may not even register as original to a player not paying special attention to it. This level is also the only one to contain Green Berries - which were seen only once before, on the welcome message screen at the beginning of the game. I believe Green Berries are a great way to bookend the game - assuming the player even remembers seeing them at that point, as it can easily be tens of in-game hours and months of real-life time between starting the game and finally getting to Funky.

Green berries add 20 time units to the timer. This is not entirely necessary, as the level can be beaten without them, but rather helpful as the level is comparatively long and only gives the player 199 time units to start with.They are also accessory to an entertaining glitch: the game is not programmed to make the music, which speeds up when 99 time units remain, to slow back down when the timer goes above 99 again. The result is that a player can wait next to a Green Berry until the timer reaches 99, let the music speed up, then have Yoshi eat the berry to bring the timer back above 100. Now, when it reaches 99 again, the music will speed up again, and this can be repeated 9 times to make the music reach an absurd speed.

The reason this is possible is because instead of storing the two speeds of music as separate files as modern games would, or having a check in the code to only speed up the music once as slightly less modern games would, Super Mario World does nothing of the sort and lets the engine speed up the music every time without regard for its existing speed.

At the end of the level, coins spell out the message "YOU ARE A SUPER PLAYER!!" before Mario finishes the game once and for all by touching the goal tape. And let me tell you, if you have made it this far into the podcast, then you are an even more super player than that.

Thank you for joining me on my journey through Visual Design in Super Mario World: An Exploration of Hypotheticals. I hope you enjoyed the podcast, and I welcome all feedback, positive and negative, that you may wish to share with me.

I'd like to thank all of my supporters on Patreon for making this possible, as well as all the Broth Siblings as well as Supperstars for deciding to support this podcast. I apologize for taking this long, but with the next two podcasts being almost ready for release, I believe I will be caught up in a short time.

Thank you very much for listening.