Patrick
Holleman

REVERSE DESIGN

Chrono Trigger

Reverse Design

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Reverse Design Series

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Chrono Trigger

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Introduction: The Two Games of *Chrono Trigger*

At the heart of *Chrono Trigger* is the question of whether or not events are inevitable. Every element in the game is used, at one point or another, to deal with this question: story, gameplay, even art and music. This doesn't mean that the game makes the question (or its answers) obvious. *Chrono Trigger* is a sly and deceptive game. Even while the game is showing players one answer in the plot, it's giving them another answer through the gameplay. More than a decade before anyone was writing about "ludonarrative dissonance," the designers of *Chrono Trigger* had confronted the problem, worked it through, and deliberately used it as a resource. Because they expected players to simply overlook the (seemingly) inevitable disconnect between story and gameplay, the *Chrono Trigger* team decided they could manipulate the player through this expectation. Right up until the jaws of tragic defeat snap shut on the main character, the player expects something different. But then, as players are handed the sad answer that fate is inescapable, they get a second answer: the tragedies of history can be averted, after all. The gameplay becomes harmonious with the plot, and we have a comedy that follows and undoes the tragedy before it. That's the real genius of *Chrono Trigger*: it can offer us two different answers to its central thematic question. It can show us two different but equally persuasive worlds, and it can do this both through story and gameplay. The reason that *Chrono Trigger* can do all of this is because it is really two different games.

Those two games are what I'll refer to as the *Tragedy of the Entity* and the *Comedy of the Sages*. It's important to note that this division is not simply a literary one; not only are the two parts of *Chrono Trigger* written differently, but they also play very differently, or else the difference wouldn't be very ingenious at all. *Chrono Trigger* is special because the designers knew that if they could use the gameplay to preserve and embellish the surprises in the plot, they would have accomplished

a unique form of storytelling, idiosyncratic to their craft. Accordingly, this book will analyze how *Chrono Trigger* was created to deceive, surprise, and delight the player. First, a brief overview.

The Tragedy of the Entity

The first game, the Tragedy of the Entity, is a guided tour of the tragic history of *Chrono Trigger's* planet and its many eradicated inhabitants. It takes place across the first thirteen (linear) quests. This game is tragic in the colloquial sense of the term; it's a sad and affecting story. It's also tragic in the classical sense of the term; the hero of the story is propelled by a tragic flaw towards his inevitable doom. What makes *Chrono Trigger* interesting in this regard is that the Crono's tragic flaw—and really his only characteristic at all—is that he's the hero and player avatar in a videogame where the objective is defeating an overpowering evil. Crono has no choice; it is his destiny to face the monster Lavos whether he can defeat it or not. The only real difference between *Chrono Trigger* and most games is that losing to this monster doesn't force the player to load a previous save file. Instead, the stakes of his loss (specifically, at the Ocean Palace in quest twelve) are carried out in the story of the game. That is the reason Crono dies.

The problem with this kind of tragic inevitability is that while readers, viewers, and listeners are accustomed to the feeling of powerlessness that a tragedy instills, people who played videogames in 1995 were definitely not. Thus, in order to keep players engaged without compromising their vision of a tragic story, *Chrono Trigger's* designers set about continually deceiving and surprising the player by using various game design methods. If the players are always a little bit off-balance, they won't realize the oncoming tragedy until they're already hooked. The moment of triumph for the designers is when the tragedy seems at once surprising *and* inevitable. This takes more than just good writing, however. It also takes very clever use of the aspect that makes videogames unique: gameplay. *Chrono Trigger* has the distinct advantage of speaking two languages: it is a game that tells a story. Game designers, independent of game writers, communicate a lot to their players with things like dungeon pacing, the difficulty of bosses, giving them new towns to explore, teaching skills, or even through the way they display information in the user interface.

Almost-full menu screens and conspicuous save points communicate important information to the player.

The great trick of the *Tragedy of the Entity* is that in one language it tells players that they are victorious: they win battles, collect items, level up, and jump through time. In another language, it tells them that everything they're doing is actually meaningless (to say nothing of entirely linear). At almost every turn the party's efforts to change the past are stopped by the game's main antagonist, Lavos, who warps history to suit himself. The player really ought to have realized that the inevitable showdown with Lavos might not go so well, but the player doesn't because the game keeps him or her off balance, using a variety of gameplay and story techniques. By the time the player figures it out, it's already too late. The feeling that the party's defeat was inevitable breaks on the player as a grim and surprising realization.

The Comedy of the Sages

The second game that makes up the content of *Chrono Trigger* is the *Comedy of the Sages*, which begins at Death Peak. This is a comedy in the classical sense of the word, a dramatic work with a reasonably happy ending. Specifically, the *Comedy of the Sages* is a comedy of intervention, a kind of comedy with a long historical tradition. In a comedy of intervention, the dramatic action comes close to tragedy, but the characters are saved by a concerned outsider. Works like Euripides' *Alcestis*, Shakespeare's *Much Ado about Nothing* and Robert Zemeckis's *Back to the Future* are comedies of intervention. What makes *Chrono Trigger* unique is the fact that the comedy of intervention begins only after the tragedy is complete. That's the beauty of time travel, after all.

The remarkable thing about *Chrono Trigger's* game design is that the intervention—by the three Gurus of Zeal—not only changes the tone of the story, but also changes the style of the gameplay. During the Tragedy of the Entity, the game is almost entirely linear. The party moves from point to point and era to era with hardly any alternatives at all. During the *Comedy of the Sages*, thanks to Balthasar's time machine and Gaspar's vision of the various helpful quests, it's possible to move freely through time, tackling the quests in any order that the player wishes. Moreover, the objective of each quest changes. In the Tragedy, the goal of most of the quests is to find and defeat Lavos or his alleged creator, Magus. Those quests proceeded in a very classical console RPG fashion: map-town-dungeon-portal, map-town-dungeon-portal, and so on. The results of those quests are historically insignificant; the player changes nothing from one era to the next. In the second game, the quests are not about destroying Lavos, but about helping minor bystanders. Usually, these people are connected to a party member somehow. The quests break the earlier cycle, and can often be short and involve lots of time travel puzzles. The best part is that those quests have a real, tangible historical impact.

This book will deconstruct exactly how the first part of *Chrono Trigger* uses differing gameplay and story cues to create a surprising, yet seemingly inevitable tragedy. After that, it will deconstruct how the second part of the game undoes
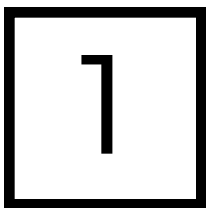
the damage of the earlier tragedy by giving the player the game they thought they were playing in the first place.

Quests and Their Design

The most important thing to understand about *Chrono Trigger* is its quest structure. The previous book in this series on *Final Fantasy VI* focused primarily on systems that stretch across the entire game. By and large, the interesting facts about *FFVI* arise from the large statistical trends which emerge from those systems. Most first-time players won't notice how deep those systems go, because most of the really important information is buried deep in complex formulas and huge tables of information. *Chrono Trigger* is different. Everything a designer needs to know about *Chrono Trigger* is right on the surface, and every individual piece of information is fairly simple, but the various pieces are glued together so finely that sometimes it's difficult to know where one begins and the other ends. The party's first arrival in the *Kingdom of Zeal* is a good example of this. That first trip is amazing, but it's likely that a casual player doesn't even realize that the Zeal section completely breaks the pattern the game has established—it has no dungeons, no explicit quest, and only mandatory story scene. That is just one example of the genius of *Chrono Trigger*; because it is so artfully made, players don't notice the design tricks which are right in front of their faces. Understanding the design of *Chrono Trigger* is a matter of breaking the game down into its individual pieces and seeing how they fit together.

The fundamental pieces of *Chrono Trigger* are quests. All RPGs are filled with quests, but sometimes those quests can be vague, misleading, poorly crafted, or even just tedious. Sometimes the quests are just filler material between story sections. In *Chrono Trigger*, the quests are very tightly written, and usually cleverly designed. Part of why *Chrono Trigger* is such a masterpiece is that the designers were very careful to introduce, prepare and then test every long-term skill the player would need to use to achieve success going forward in the game. If the player didn't develop these skills on time, the pacing of the game would be ruined, and the overall narrative spell would be broken.

Before we get to the first quest, I want to note that this is an attempt to completely reverse-engineer the design of *Chrono Trigger*. Accordingly, there are many parts of the analysis that don't explicitly support the thesis of consonance between the theme and the gameplay mechanics. Obviously, some things in the game needed to be simple, orthodox RPG design ideas. Like all games, *Chrono Trigger* must be playable before it can be artful. Regardless of the support these elements lend or don't lend to the theme, the game takes pains to pace itself really well. There are lots of places in quest descriptions where I have highlighted a good design idea and how it is executed, just for the sake of examining good design. That stuff is important too!

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The *Tragedy of the Entity*

Quest One: Save Queen Leene (And Marle)

Stat of the Quest: The Stat of the Quest is a section dedicated to isolating one interesting statistic that shows an interesting and/or thematic design decision—with math! There isn't much to say about quest one—at least not from a statistical standpoint. How about a strange little fact? Only two enemies in the game cast a slow debuff: the Naga-ette and Lavos. That is, the first enemy in a dungeon, and the very last boss.

For the most part, dungeons in *Chrono Trigger* never get much more complex than the Cathedral, but they do get bigger and they certainly get tougher. There are two zones in the Cathedral; the first room with adjoining balcony rooms to the right and left is the first section. With the weapons found in chests in the first section, the damage floor (minimum) for Crono and Frog's attacks is around 25 and 35, respectively, even at a low level. Thus, the two of them will be able to take out the Diablos (50 HP) and

Naga (60 HP) enemies in merely two hits.[1] If Frog and Crono do not finish it, one shot from Lucca ought to finish the Gnasher enemy nine out of 10 times. Most battles will be short and easy, just the way you'd expect them to be in a first dungeon.

The important thing about the first section is that if the player fights every group of enemies on screen once, it will earn the party 30 tech points. Not coincidentally, this will be just enough for Lucca to learn Flame Toss and Frog to learn Slurp and Slurp Cut. This is important because in the second room we are going to be introduced to one of the game's enduring lessons: categories of enemies.

The primary lesson that *Chrono Trigger* teaches about combat with non-boss enemies is that there are different types of enemies that share behaviors and weaknesses. The Cathedral teaches the most basic division of enemies into categories; some enemies can be defeated by normal attacks, and some enemies must be defeated by special "tech" attacks. There are many different reasons why an enemy might fall into one group or the other, and we'll see each of those reasons as we progress through the game, but the first thing for a player to know about an enemy is which group it falls into. In the second section of the Cathedral, the player is forced into combat with the Hench enemy. The Cathedral Hench is highly resistant to normal attacks, which prompts players to try using techs. In each Hench battle, the Henches tend to stand close together, making them a very easy target for Crono and Lucca's new dual-tech attack, Fire Whirl. This attack will dispose of the whole group of Henches easily. The player learns two important lessons: (1) some enemies need to be killed with special attacks, and (2) dual-techs are very powerful.

Dungeon difficulty can be measured, in some cases, by the number of enemies that require tech attacks to defeat because the player will have to ration their MP, pick the right attacks, and even the right party combination. Not right now, however: Henches only make up 27% of the total number of enemies in the dungeon and can almost always be defeated by one or two dual techs. This number will go up a lot in later dungeons, when the player's skill at choosing, using, and rationing tech attacks needs to be developed and tested.

The boss of the Cathedral, Yakra, introduces players to types of boss monsters. Attrition/spike bosses like Yakra generally work like this: the boss spends 2–4 rounds dealing small amounts of damage to every party member before launching a high-damage, single-target attack. There are variations on this theme that we'll see in other bosses, but the attrition/spike design is used a few times. Although this design repeats, *Chrono Trigger's* designers did a good job of making sure it would provoke a different response each time. In the case of Yakra, the player will probably resort to a dual-tech-and-heal strategy (X-Strike plus items), but this won't be the case in every boss fight—not even others like this one.

Quest Two: Action, Consequence and Deception

Stat of the Quest: Quest two introduces an important category of monster: the three-piece boss. Nine bosses (about 22% of all bosses, depending how you count repeats) are made up of three parts. Three out of these nine bosses feature regenerating

parts. Five out of these nine bosses feature parts that can act independently of one another. Only one (the Lavos Core) features parts that can both regenerate and act independently. That's an example of two categories of enemies coming together at the end of the game.

The most important part of the second quest is not its dungeon but the trial that precedes it. Both parts, however, perform the same deception. The goal is to convince a first-time player that they're playing a different kind of game than they're actually playing. To explain what this means, we'll go in reverse order, starting with the dungeon because it is simpler.

Guardia prison is a confusing and somewhat open-ended dungeon that gives new players the impression that upcoming dungeons will be complex and have multiple options for dealing with them. This isn't true. Guardia prison is the game's only true maze. (Although the Blackbird seems like a maze, it's laid out in a regular grid pattern. Even the dungeon called "Forest Maze" is nothing more than a straightforward walk with a couple of meaningless branching paths.) On first playthrough, the structure of Guardia Prison's connected towers is confusing, and its exit is counterintuitively placed. There are two entirely different ways to get out of the dungeon, either by exploring or by simply waiting for rescue. The game never again offers that kind of choice. Crono is alone in this dungeon (unless you opt for rescue), and there will never again be a true solo dungeon. There are chests that the player can see but that they cannot seem to reach from their current position; this, too, will never be a feature of other dungeons. Finally, there are enemies that can be defeated outside of battle. This, as you might have guessed, never happens again.

For toying with player expectations, the trial scene is even worse. The trial attempts to convince the player that he has far more choice and agency in the world than he actually does. First time players will almost certainly commit a number of errors at the Millennial Fair which the Chancellor will use against them. There's the obvious, bright pink lunch that seems like an easy snack. There's the option to convince Marle to sell her pendant.

For that matter, there's the pendant itself. It's a very easy mistake for a new player to make, grabbing the pendant first before talking to her. The one mistake almost every player makes is pulling Marle away from the candy store. How are you supposed to know that even one small move would be used in a trial later?

New players are meant to think that these kinds of small actions will be meaningful throughout the rest of the game—that their decisions matter. That would make a lot of sense for a game about time travel; decisions made in the past can affect the present and future. The *Tragedy of the Entity* does not actually operate like this. Not only are the player's minor choices irrelevant, but the quests in the first half of the game are historically meaningless. The tricky thing is that players cannot see the lack of impact their choices have until after the *Tragedy of the Entity* is complete. The trial scene is, in a sense, the designers' way of pulling the wool over the eyes of the player, preserving the shock of the realization until it is thematically appropriate.

Quest Three: Meet the Antagonist

Stat of the Quest: Lead with art! By the end of this quest, the player is finished with 14% of the quests, and 14% of the battles (crazy coincidence, huh?). In that short span, the player has already heard 47.8% of the music tracks, seen 41% of the game's map tilesets, and fought 34% of the game's repeating enemy sprites.

The third quest is, in a sense, inside-out. Most of the quests in the first half of the game feature two-part dungeons. A two-part dungeon is any dungeon that divides neatly into two sections with an opportunity to save and heal at the midpoint. Quest three features a two-part dungeon; it's just that there happens to be a town in the middle of it. Neither Lab 16 nor the Info Center is terribly long or challenging.

Combined, however, they make for a reasonably sized dungeon, and they have only one boss between them. Or consider it this way: there are exactly 20 battles and one boss to be had in the Cathedral. There are exactly 19 battles and one boss

to be had between Lab 16 and the Info Center. In between, the player can visit Arris Dome to save and heal in the Enerton.

The boss of this quest introduces a new and common type, the three-part boss. It's also one of the hardest bosses in the game, at least for new players who don't figure out the boss's primary behavior. The Guardian counterattacks with a high-powered, multi-target attack each time it gets hit—as long as both of its sidekicks are alive. Eliminate the sidekicks and it's more or less helpless. In this, the player learns two lessons about future bosses. One, they learn how to face a tripartite boss; almost every three-part boss has one part that significantly weaker than the others.

The other lesson is about temporary or triggered vulnerability. This is a very prevalent feature in CT bosses. The Guardian does not possess the full characteristics of triggered vulnerability, but it does serve as a precursor to that mechanic because it is more vulnerable at some times than others. Both Nizbels, Magus, the first Tyrano, the Retinite, and the last form of Lavos all benefit from some version of temporary/triggered vulnerability. We'll see more about that particular monster type in quest six.

Quest Four: The Factory Ruins

Stat of the Quest: *Chrono Trigger* doesn't really have many "mini" or "mid-bosses," but the sequence of battles introduced in this quest can sometimes serve the same purpose as a mid-boss would. Of the four proper sequences of battles, three have cumulative stats that are close to boss levels. The first sequence of battles at the Factory Ruins sees the player fight a bunch of Debuggers and Proto 3s, whose total HP is 1488. If you multiply that by 2/3 (because only 2/3 of the party actually fights the boss, with Robo out) you get 992. The R-Series boss has a total HP of 900. In the Ocean Palace elevator sequence, the player fights various monsters totaling 8490 HP. The Golem Twins each have 7000 HP (and the whole point of the battle is figuring out how to attack them both at once because of their shifting abilities). Last and most interesting, the sequence beginning the Geno Dome throws enemies totaling 18432 HP at the player. Atropos (the closest thing the game has to a classic mid-boss) has

The fourth quest is much shorter than the third, although the fourth dungeon can feel longer than the third for a few reasons. The quest starts with a somewhat ill-advised minigame: the *jetbike race*. There is not a lot of nuance to the bike race; the only real strategy is to try and bounce off Johnny as many times in sequence as possible. He moves to block the player in a straightforward manner, but the depth of field of the screen is hard to interpret, making it needlessly difficult to avoid collisions. Nor is the bike race deep on mechanical or meaningful level, so there isn't much to say. Attempting to cross the mutant ruins of Lab 32 is more difficult and not rewarding. The bike race is the lesser of two mediocre options.

The dungeon of the fourth quest, on the other hand, is quite interesting for a variety of design reasons. The foremost reason is that there is a new character. The player's choice of party composition creates a tactical decision. The player must decide whether to bring Marle (for more healing) or Lucca (for more firepower) to the dungeon, alongside Robo and Crono. Even the framing of this decision is meaningful. In many RPGs, the player suddenly has to choose a whole party from scratch. In *Chrono Trigger*, the player only gets to decide how to fill one slot. This limits the player's choice, but it helps inexperienced RPG players to understand the meaning of party composition without having to make too many decisions at once. After this quest, the player plays two quests with greater choice, so the gentle introduction to the concept makes a lot of sense.

The newness of Robo's abilities makes this dungeon more interesting. After two dungeons in which Crono was the only strong physical fighter, it's nice to have Robo's power in the party. Moreover, Robo has what Marle and Lucca don't yet have: powerful elemental attacks. Laser Spin isn't canonically magical, but it is a shadow elemental attack, it is powerful, and it hits every enemy on screen. What's more, it combines with Crono's Cyclone to form the powerful dual tech Rocket Roll. Robo also has a lot of HP, and he's got a healing ability. On the downside, he's quite slow.

The dungeon itself tests the player's ability to use Robo's combos frequently, and by extension, multi-target attacks in general. Essentially, this is an extension of the lessons taught by the Hench enemy in the Cathedral dungeon. The right side of the factory is the first place where the party will encounter another important feature of *Chrono Trigger's* design: the sequence of battles. Although it is possible to navigate the conveyor belt maze without fighting anything, new players aren't going to manage it. Upon contact with an oncoming robot, the players will be forced into three consecutive battles of increasing numbers of Proto 3s and Debuggers.

Because of the high number of enemies, these battles will be quite difficult unless the player uses Rocket Roll at the beginning of the second and third battles. Even at a slightly lower level, the damage floor for Rocket Roll is still about 90, while the damage floor for Crono and Robo's physical attacks is just above 50.[3] This means that after one rocket roll, the Debuggers have only one hit left of their 120 HP (if they survived at all) and the Proto 3s will have about two shots left.[4] This is a big improvement over the five or more rounds of attacks that would otherwise be necessary. The boss fight against the R-Series is similar.

At the appropriate character level, Crono's Cyclone deals damage equal to more than half the HP of the R-Series robots and will dispatch a row of the R-Series in only two uses, but only if targeted properly. Without learning how to use multi-target attacks and combos, the player won't be able to progress.

Interlude: The End of Time

The end of time is important, although how it's important will be explained later in detail. For now, we can recognize it as the close of the first "chapter" of the

Tragedy, and the break before the beginning of the second chapter. Again, though, we'll cover more about this establishment of rhythm later.

Quest Five: The Rational Use of Magic

Stat of the Quest: About one in three non-boss enemies (or "mobs") in *Chrono Trigger* is highly resistant to physical attacks. For design reasons, about 75% of those resistant enemies come in the Tragedy of the Entity. For bosses, the reverse of that is true. Of the strictly physically-resistant bosses, 75% of them come in the *Comedy of the Sages*. The reasons for this division are twofold. First, the early quests have to teach the player when and where to use tech attacks, and also what those (highly varied) tech attacks do. The most obvious way to trigger that behavior in the player is to greatly reduce the damage an enemy receives from normal attacks. Second, enemies in the second half of the game do significantly more damage and have more health (even when taking into account the party's higher stats), and inflict more debuffs, so making them immune to physical damage would make common battles longer more difficult than the designers wanted them to be. Third, many of the best tech attacks in the game are physically-based and having widespread physical resistance would restrict party composition. Between *Final Fantasy VI* and *Final Fantasy IX*, this was not something that the Squaresoft designers liked to do.

Medina village begins another key deception in the game: the red herring on the origin of Lavos. If you've been reading the first four quest synopses, you'll note it's not the game's first deception—not by a long shot. Nevertheless, it's important that the game continually deceives the player in order to keep him or her off balance, and it certainly happens often.

The NPC sociology reflects this clearly. (If you want to know more about NPC sociology, there's a much deeper description in *Reverse Design: Final Fantasy VI*.) Typically, NPCs in *Chrono Trigger* do a very good job of communicating to the player where to go and what to do next. That's a type of communication called "direction," by which a game designer gives the player instructions in an "in-universe" way.

About 25% of NPCs in the game give the player some kind of instruction about how to play the game. In Medina village, there's a huge change. Almost none of the residents here give instructions; most give backstory instead.

Getting more backstory from NPCs is not unusual, but the concentration on a single topic (Magus and Lavos) is unique in the game. The mystics seem to have spent the past 400 years dwelling on a single unfulfilled event—even though they greatly misunderstand what was supposed to occur. The player is supposed to infer that Magus, who allegedly created Lavos, is going to be the main antagonist of the game. The payoff for this deception won't come for three more quests, but the setup is in full force already.

The Heckran Cave dungeon serves as a lesson in how to use the magic the player has just acquired at the End of Time. The entire dungeon is filled with tech-only, and, specifically, magic-only, monsters. Fire Whirl will work just fine because it's still technically magical, but most of the enemies are placed widely to make this impractical.
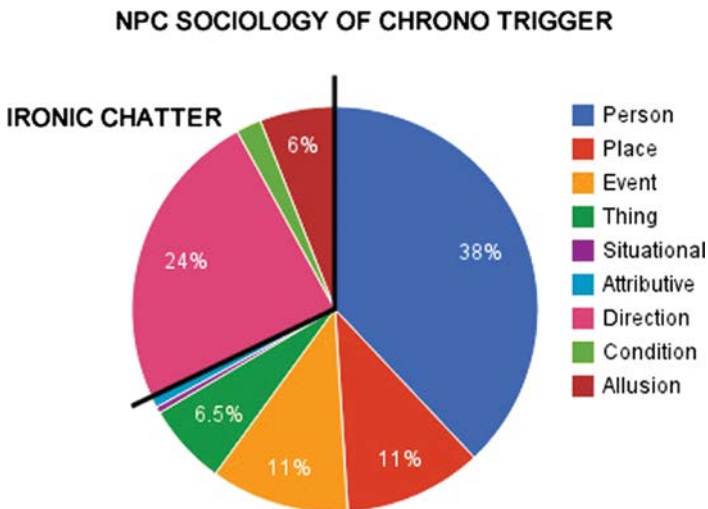
The lesson about using area-of-effect attacks is over; now it's time to learn how to use—and more importantly how to ration—single-target tech attacks. To that end, most enemies will fall quickly to magic. Marle and Lucca's first-level elemental spells have damage floors around 120, which will instantly kill any enemy in the cave. If Crono hasn't reached level 12 or isn't using the Red Katana, his damage floor might start in the 80 damage range,[5] which would mean he can't kill the Cave Bat or Jinn Bottle enemies.[6] Properly leveled and equipped, however, all party members should never have to cast more than once per enemy. Additionally, Robo's Laser Spin has a damage floor around 88, which would end many battles all at once.

The Heckran is much like the other monsters in the cavern, weak only against magical attacks. The Heckran also brings back the design features of the Guardian: periodic phases and severe counterattacks. The Heckran enters a short, periodic counterattack phase ("Go ahead and attack, I dare ya!"). Trying to heal through these counterattacks wastes MP, which the party needs to conserve to cast offensive spells. In the end, it's simpler to wait for the counterattack phase to end. Interestingly, this is the only point in the game where the player will really wait and do nothing in a battle. After the battle, the Heckran feeds the player a Lavos-flavored red herring, and the party has their next quest.

Quest Six: A Mountain of Things to Do

Stat of the Quest: NPC Sociology Breakdown!

NPC SOCIOLOGY OF CHRONO TRIGGER

IRONIC CHATTER

- Person 38%
- Place 11%
- Event 11%
- Thing 6.5%
- Situational
- Attributive
- Direction 24%
- Condition
- Allusion 6%

NPC speech breaks down into several categories, and statistical surveys of those categories can tell us a lot about how the game is designed. Note that the survey below counts the first dialogue spoken by NPCs, or the first new dialogue they say during a new quest. There are very few reaction dialogues graphed, because almost all of the reaction dialogue in the game happens after you complete a quest. Most NPCs local to that quest will give you a reaction dialogue right after the quest but will lose that dialogue when the next quest in their area/era starts.

Quest six is the biggest quest so far and marks the beginning of the only time in the first game where there is a specific, larger meta-quest other than "stop Lavos." That quest is to find and defeat Magus so that Lavos is conveniently edited out of history. There is a macguffin involved—the Masamune—and this "chapter" will take three more quests to complete. The whole thing is another attempt to deceive the player with various forms of pacing. In this case, the designers were confronted with a problem: how do we make the game feel like it's ramping up towards a (false) climax without just throwing over-long dungeons at the player? It's too early for really long dungeons, and *Chrono Trigger* is too carefully crafted for a sharp spike in difficulty. The first solution to all this was to ramp up exploration activities. Thus, there's an uptick in non-combat quests, talking to NPCs to find treasures and quest locations, searching shops for gear, trying to track people down, etc. The second solution was to create a dungeon that feels longer and more challenging (at first glance) than it really is.

The exploration activities start the player with a mini-quest, to bring supplies and reinforce Zenan Bridge and finish with a two-town manhunt for Frog and Tata. Having probably never been there, the player has to figure out that the action is happening at Zenan Bridge, then has to talk to numerous people at the bridge and in the castle to figure out that it's the Chef who is the object of your current task.


It's hardly spelled out. There's a boss in the middle of all of this; he's not terribly interesting from a design point of view. Half of Zombor absorbs fire and the other half water. Elemental absorption is, strangely, one of the few defensive mechanics

in the game that sees very little development. (Almost all significant instances of elemental resistance are in boss fights, and there are still not that many.) After the fight the player gets even more exploration. Instead of having one new village to explore per dungeon (as has been the norm) there are two. Dorino village offers some items, an allusion to a future sidequest, and a tip to defeat the upcoming boss. That's all exactly the kind of exploration that RPG players tend to love. The only problem is that the NPCs, for whatever reason, do a bad job of making it clear what the player should be doing. You can count the major flaws in *Chrono Trigger* on two hands, but the directions to the player in this quest are one of them. Two NPCs in Dorino will inform the player of the Masamune's supposed location "nearby," and that the "hero" Tata is after it. All of the relevant NPCs in Porre will speak about Tata, but only a couple say anything about his location.

The NPCs in Dorino and Porre do a better job implying the false climax that will come of Magus' Castle. While the NPCs aren't terribly helpful for finding where to go next, they do a great job of giving some background information about Magus, Frog, and Cyrus, and what happened to set this quest in motion. (The average rate for event chatter across the whole game is 11%, whereas in Dorino, it's just above 33%.)
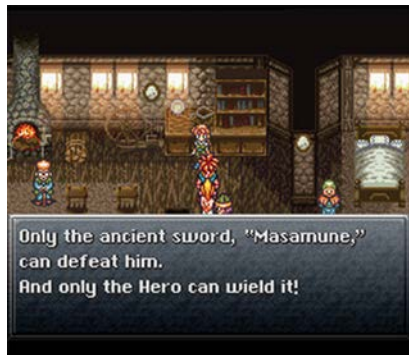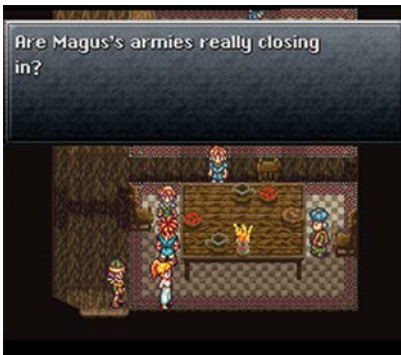
Little is mentioned about Magus at any time before this (or after). Additionally, having two towns and all these new NPCs makes the game seem big enough that it might be entering its "pure dungeon phase," where exploration gives way to dungeon after dungeon. Players who had been playing other Squaresoft RPGs in the 90s would have known that four or five towns introduced by the main plot (Guardia Village, Truce Village, Medina Village, Trann Dome, and Arris Dome) were too few to be a complete game. Seven villages with dozens more people makes the game seem fuller than the 10 of gameplay that has actually passed.

Denadoro is the biggest dungeon so far (although its size is quite deceptive) and, for *Chrono Trigger*, it is unusual. Dungeons should get bigger and more challenging as the game goes on; no player will be surprised about that. What is unusual about the dungeon is its structure. So far, the big dungeons have been divided into two distinct parts. The Cathedral had a save point in the middle. Guardia Prison did not, but it was small (if confusing). Lab 16 and the Info Center had a world map segment and a save point in the middle, which was a little odd but still divided the dungeon into two neat parts. The Factory Ruins had an obvious division between the left and right elevators, with a save point in the second section. The Heckran Cave was short enough that, like Guardia Prison, it didn't need division. Mount Denadoro is a long dungeon, but the only save point within is located one fight before the boss. This is no accident; like everything else in the game it is the designers' way of playing with pacing. In truth, Denadoro has fewer monsters and fewer total enemies than the Cathedral. It feels a lot longer though, and almost certainly takes longer. Part of that feeling of length comes from that lack of a dividing save point. The player has to do the dungeon all in one attempt. Another part of the length is the battles with Ogans, an enemy with a new design feature: triggered vulnerability.

Triggered vulnerability means that an enemy is strongly resistant to normal damage until it is hit with a specific attack. In this case, the attack is fire from Lucca. Triggered vulnerability works well toward making battles a little bit harder and longer without really being dangerous. Many of the Ogans that feature this triggered vulnerability appear in a sequence of battles that occur on a ridge.

There are several fights in a row, during which time the player can only heal while in battle. Coming into this sequence with low MP will make things difficult; that's part of the point, though. It's not that many enemies, but it feels like it is on the first trip through. That long sequence of battles contains the essence of the dungeon and really the essence of quest six as a whole. The quest is designed to feel longer, more challenging, and more climactic than it really is. The late-arriving save point, the slow grind through enemies with triggered vulnerability, the sequence of battles—they all contribute to this deceptive turn in the pacing of the game.

The boss of Denadoro is far and away the most difficult one faced yet, and further contributes to the sense of increased quest length. In fact, there are two bosses. The first form of Masa and Mune is just a way of fooling players into thinking that they're done after a moderately difficult fight. (The brothers are capable of inflicting the very tedious Chaos effect.) MasaMune doesn't have complicated phases or counterattack behaviors. His best move can be canceled if the player explored enough to find out about it.

MasaMune's foremost characteristic is his large pool of HP. He has more than twice what either Masa or Mune had individually. That context (plus the back-to-back battles) makes the battle feel even longer than it is—and it's a long battle to begin with. But, like many boss battles in the game, it's not that dangerous.

The takeaway message, in a sense, is that it should give the players the impression that the game is mounting to something big, even though it's going to be a false climax. To that end, the designers pulled out an awful lot of design tricks.

Quest Seven: Prehistory

Stat of the Quest: This quest encourages the player to spend time hunting for barter items, so as to break the tension before Magus Castle. One way it accomplishes this is by bumping up the relative power of equipment, as you can see in this chart:

GROWTH OF WEAPON POWER ACROSS QUESTS
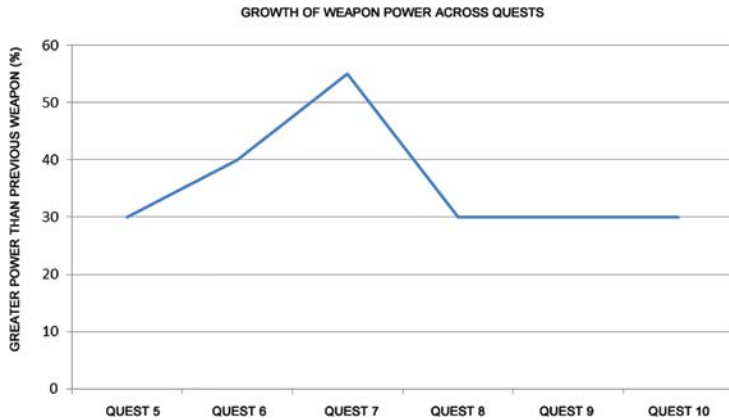
The seventh quest presents another interesting quirk of pacing. Quest seven's most important feature is that it's short and offers a bit more freedom than usual. This acts as a kind of lull in the rising action of the game, as if the game were taking a breath before hitting a high note. So far, the game has done a good job of alternating long and short quests to keep the player interested. The Heckran Cave quest was short, the Mount Denadoro quest was long. It makes sense for quest seven to feel short—and indeed it is. The quest is also considerably more open and relaxed than previous quests. After the introduction of Ayla, the party is free to roam almost the entirety of the known world in the distant past. It's not much land to cover, but almost anything that is there is immediately accessible.

There are a lot of little touches here in the past that help to break the tension before the supposed climax to come (at Magus Castle). The ability to go hunting at the Hunting Range and barter away the winnings is relaxing: the enemies are easy and few. The Nu which appears in the rain at the Range is a fun challenge; not too hard but not too easy, and quite rewarding (30 tech points and four of each barter resource). It's possible to break the dungeon sequence by going to the Dactyl Nest; those battles are difficult but getting back out is easy, and the rewards are great. There's also a free inn:

There isn't a lot of NPC chatter either; there are only nine segments of actual information to be gathered, and none of it is hard to find.

Now, if we're counting flaws, the party scene is a bit on the boring side. There's not a lot of information, activity, or effective characterization. (To be fair, deep characterization doesn't ever happen; most of the characters in the game are, at best, one-dimensionally cool.) The drinking contest is not especially fun. Could the game exist without the party, or some abbreviated version of it? I think so, but it doesn't break the game.

The first dungeon of 65,000,000 BC seems trickier than it actually is, since it's actually another standard, two-part dungeon. The save point in the middle simply happens to be a world map segment, just as in the Lab 16/Info Center divide.

This dungeon does well to highlight the reason why *Chrono Trigger's* dungeons are generally divided into two: it helps RPG novices. *Final Fantasy* games, by contrast tend to have one save point in most dungeons; only the really big, challenging dungeons have save points in the middle. The two-part structure in *Chrono Trigger* makes sure that even newbie players will have a fallback save point if common enemies get the better of them.

Interestingly, the difference between the sections of the Maze/Lair is the same as the difference between the two sections of the Cathedral. The Forest Maze is filled with standard enemies (and isn't much of a maze), while the Reptite Lair has some trickier battles. Megasaurs are another enemy with a triggered vulnerability. (As one of the NPCs points out "Thunder stun all dinosaur! You know?") Lightning will do for Megasaurs what Fire did for the Ogans on Mt Denadoro, exploiting that weakness and lowering their defense.

The game actually spot-checks the player's ability to exploit triggered vulnerability during the Nizbel boss fight. (A spot-check is any time a game kills the player avatar for not understanding an important mechanic.) Nizbel has a lightning-triggered vulnerability on a timer that will reset after a few turns. When the timer resets, the entire party will take significant damage.

This is the spike that characterizes Nizbel as an attrition/spike boss like Yakra. Here we see the designers beginning to combine their design ideas to create greater challenges. For one thing, the spike hits the whole party. For another, the attrition/spike design calls for a dual-tech-and-heal strategy, but one party member (Crono) is going to be busy triggering Nizbel's vulnerability. It's not really that hard, but it does represent another evolutionary step that the designers force the player to deal with.

Nizbel's new behavior also forces the player to consider issues of party composition. *Chrono Trigger* is an easy game and doesn't offer much. That third character can swing the battle with Nizbel a bunch of different ways: Marle offers more healing, Robo and Lucca more power. Does the player burn Nizbel down fast, or live safely with lots of healing? There's no wrong answer, since Ayla can both deal physical damage and output a decent amount of healing. This battle does help train the player to think critically for the more difficult battles to come in Magus' Castle.

Quest Eight: A Big Bad Bait-and-Switch

Stat of the Quest: Magus' Castle is unusual for its three-part structure; only three dungeons (15% of them) have three or more sections, while 40% have two sections and 45% have just one section. One very brilliant quest has no dungeon sections at all. The point of this breakdown is to highlight yet another reason why the Magus' Castle section feels climactic, even though the designers are playing a trick on the player through the design.

Magus' Castle, in serving as the false climax of the first game, turns a lot of the established dungeon conventions on their ears, so to speak. It ought to, since a normal two-part dungeon with one boss would be horribly anticlimactic. With or without the inherent deception, Magus' Castle is a really cool point in the game. Let's get specific about why, though. Firstly, the dungeon, rather than ending with bosses *begins* with bosses—two of them in fact. Slash and Flea are no pushovers, and both serve as spot-checks, albeit for different things.

(1) Front Section

To make sure that the party is actually ready to face these new, difficult bosses, the scant few enemies available in the first section of the castle are specifically tailored for grinding out some EXP and tech points. In the left-hand hallway there are two endlessly-respawning battles of four Decedents and one Omnicrone each.

These enemies exist to offer quick tech points. These tech points are ostensibly for the purpose of Frog catching up to the rest of the party in learning techs, although they help anyone who's lagging in abilities. On the right-hand side hallway, there are three respawning battles, each against more advanced enemies: two Henches, two Vamps, and one Sorceror.
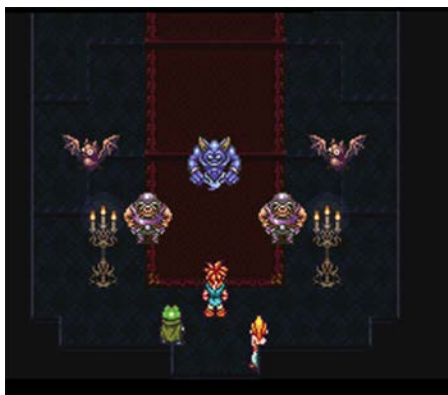
It's a more difficult battle, but it's also worth double the tech points and offers about 1/7th of a level per battle.[7]

Slash—Dual Tech and Heal… Again

Slash is a spot check for the omnibus *Chrono Trigger* strategy: dual-tech-and-heal, with emphasis on the healing component. He's got a lot of HP and hits the party with a variety of attrition attacks. All that the player needs to do is heal frequently while maintaining damage output. Slash has a lot of HP, but doesn't have a true spike attack, so the battle can be a little monotonous. All the player has to do is constantly refresh the party member with the lowest HP. This battle probably would probably have been better if Slash's damage output were a little higher and his HP were a little lower, but it's not a terrible disappointment.

Flea—Dealing with Status Debuffs

Flea is a little bit more complicated than Slash, although s/he has fewer HP to deplete. Flea serves as an introduction to knowing when and how to cure status debuffs. Debuffs like Confuse and Blind are not a major part of *Chrono Trigger's* battle mechanics. The player rarely inflicts any debuffs of any kind. Common enemies don't inflict many debuffs either, at least not until the *Comedy of the Sages*. Thus, it's hard to say that Flea teaches immediate lessons. That said, s/he can cause four status debuffs: poison, blind, sleep, and confuse, and those effects definitely make the battle more interesting. Poison and blind are, in some sense, flawed implementations of regular design ideas. Blind only affects regular attacks—which the player isn't often using in a boss fight—and when Flea uses poison attacks, s/he's not using regular attacks, which means that the damage per turn is basically the same. Sleep and confuse, on the other hand, are really dangerous, because they increase damage done to the player characters, and reduce damage done to Flea, thereby extending the fight.

(2) Middle Gauntlet

The middle section of Magus' Castle greatly enhances the rising tension of the dungeon. Ozzie promises the party that they will fight 100 monsters, and 61 of those come in this middle section. For an even greater effect, these monsters are strung out between some less combat-intensive challenges designed to add length and "breather levels" to the dungeon.

   The middle section is dominated by three sequences of battles, but those are broken up by a few sections of lower tension. The sequences of battles are essentially the same thing, three times: a long, plain hallway filled with encounters that get progressively more challenging. Many of those battles feature the Juggler enemy, who has a triggered vulnerability that toggles between physical and magical damage. In addition to raising the level of tension, these battle gauntlets test the player's knowledge of the available dual-techs.
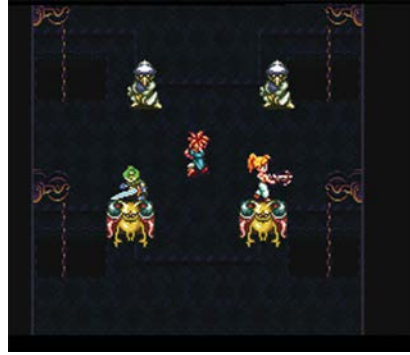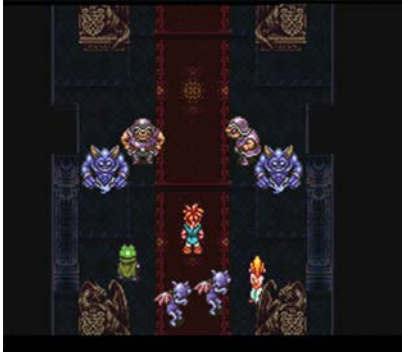
With six tough enemies on the screen at the same time it's necessary to economize the number of turns spent killing them off. There are several dual-techs that can eliminate large numbers of enemies, but the player will have to experiment with party composition in order to find them.

Breaking up the battle gauntlets are rooms with a number of different challenges, and much less combat. These rooms are designed to make the dungeon feel longer without burning the player out with endless battles. First there is a room that features damaging traps and a conveyor belt.

The second room is a maze of trap doors. This one can be aggravating because there's no way to tell where the traps are, but it would be considerably more aggravating if the player had to fight a battle every time he fell. That's not the case; there is only one mandatory battle. In fact, falling one time actually yields some decent treasure and a convenient save point. The third distraction is a set of two towers that put the player on a *Donkey Kong*-esque 2D background. The player climbs the tower, avoiding the oncoming enemies by using ladders when enemies approach. Even if the player does enter combat, however, each battle has a lower population than those in the battle gauntlets. Like the other challenges between

gauntlets, the purpose of the towers is merely to raise the sense of tension without exhausting the player too badly.

(3) The Big Boss

The fight with Ozzie is pure comic relief. It's pitifully simple and easy, but it's also a poignant design decision. To prepare the player for the battle with Magus, the designers had several options to pick from:

a. **The player doesn't fight Ozzy but goes straight to Magus**. This doesn't make sense. Would the battle feel climactic if the player walked from a battle gauntlet straight into Magus's lair to face the (false) climax of the game?

b. **Ozzy is a legitimately tough boss battle**. This is the most conventional design decision, but it would have been inappropriate for the pacing and fiction of the dungeon. A tough fight against Ozzy would make Magus seem like he's only half the challenge. Plus, if the player has to fight two huge bosses in a row, they might be too tired to appreciate (or even notice) the important plot developments that happen afterward.

c. **The player gets another non-combat/exploration section before Magus**. This decision would pad the length and could help the player get mentally refreshed, but the purpose of the explorations sections has been to reduce tension, not build it.

d. **The player fights an easy, gimmicky boss battle**. This decision simply breaks the tension up without lessening it, lets the players regroup, and focuses them on the real task: fighting Magus.

The designers chose wisely when setting up their big showdown.

Magus is the first example of a boss with sequential phases and the first real wipeout attack. The Heckran and the Guardian both had periodic phases where it was unwise to hit them, but Magus's phases are different. In the Guardian fight, the player has to periodically defeat the extra minions that appear, but the Guardian's behavior itself doesn't change. In the Heckran fight, the monster will periodically cease attacking in favor of counter-attacking. If the player simply waits, the monster's behavior is otherwise meaningless. In Magus' case, once he loses a certain amount of HP he will switch from shifting elemental defenses and attrition attacks to one big attack: Dark Matter. There's an in-battle warning about its arrival, but it's definitely the strongest attack the player has seen and can definitely wipe already-injured party members out. Even the Heckran and Guardian attacks, though abnormally powerful, were not quite as powerful as this attack. The design philosophy behind this attack is (1) make the battle feel climactic by killing unwary players the first time through, and (2) introduce the unwitting player to the many similarly strong attacks that will come in the rest of the game. They're going to need to know to keep their party at full health more often!

Quest Nine: Can't Stop the Dungeons

Stat of the Quest: The Tyrano Lair features, effectively, the biggest disparity between the HP of the final boss and the HP of the weakest enemy in the same dungeon. The Volcano has a perfectly reasonable amount of health for an enemy of its level, and not that much less than the average enemy in the Tyrano Lair. Yet, that enemy has only 1.9% of the health of the Azala/Tyrano combo.[8] The goal of this comparison is to show how the designers made the Tyrano fight feel longer and more epic by inflating his HP relative to the dungeon's normal monsters.

   (Some provisos apply to this comparison: I discount the enemies that have 10 or less HP like the Shadow and Acid, as they unanimously have gimmicky defenses that belie their HP totals. I also discount the Decedents in Magus' Castle, because as we pointed out in quest eight, they're from an earlier quest, and are supposed to be cannon fodder for your tech points.)

Quest nine continues the relentless pace of dungeon content carried over from quest eight. There are new bits of NPC chatter in Ioka village, but of the 10 new pieces of chatter, eight simply direct the player toward the Tyrano Lair. There are some new weapons to be bartered for, but no new armor. Basically, there's nothing substantial to do between Magus's Lair and the next dungeon sequence, comprised of the Dactyl Nest and Tyrano Lair.

The battles in the Tyrano Lair are generally smaller than those in Magus's Castle. The average number of enemies per encounter in the Lair is just over two, and the largest battle is four enemies. In Magus's Castle, by contrast, the average number is just under four and the largest battle is six enemies. With one exception, the enemies in the Tyrano lair don't have tons of HP or defense, and so don't require the same party composition as Magus's Castle. Part of the reason for this is that Ayla's techs are underdeveloped; she has probably gained less than 100 total tech points during her last quest.[9] The quick, medium-sized battles help her to acquire some of her mid-level techs before the big boss fights to come, without requiring too much of the player.

Only one regular enemy in this dungeon offers a significant challenge. The Terrasaur is almost like a boss in how much HP it has relative to normal enemies, plus its strong defense. The high defense can be mitigated; like Ogan, Juggler, and Megasaur, the Terrasaur has a triggered vulnerability. A single Lightning spell from Crono will greatly reduce the Terrasaur's defense. To compensate for its high HP and defense, the Terrasaur is a slow enemy and doesn't deal much damage. In that sense, this enemy is just another example of the dungeon's overarching philosophy emphasizing battle length rather than battle difficulty.

The Tyrano Lair has two bosses, both interesting for their own reasons. The first boss, Nizbel II, is a great example of the kind of iterative process I originally charted in *Reverse Design: Super Mario World*. Later in this book, there is an entire section on the way that families/categories of enemies evolve and expand. Nevertheless, I want to make mention of Nizbel II now as he represents one of the steepest evolutionary slopes, so to speak. Like the Terrasaur and the first Nizbel,

Nizbel II belongs to the family of enemies that have triggered vulnerabilities. In fact, he is a direct iterative expansion of the first Nizbel battle. Nizbel II's defense is exceedingly high until he is struck by a Lightning spell. As soon as he is hit by a non-lightning spell, however, his defense regenerates.

Thus, the player has to dedicate nearly all of Crono's turns to triggering that vulnerability. Of all the rest of the bosses in the game, only the optional Retinite will require the player to exploit triggered vulnerability so often. Even the final battle with the Lavos Core, which also features triggered vulnerability, will not require such dedication.

The second boss, consisting of Azala and the Black Tyrano, is a little bit strange when compared to most of the other fights in the game. It is a fight with two sequential phases like the encounter with Magus and like that previous battle, the second phase is designed around one exceptionally powerful attack. In the only example of this in the entire game, phase one of the fight (Azala) is weak only to magic, while phase two (the Tyrano alone) is vulnerable to anything. Phase one is about attrition attacks, and phase two is about a big, fire-based attack. The strange thing about this attack—and really, the battle—is that it's on a clearly delineated timer.
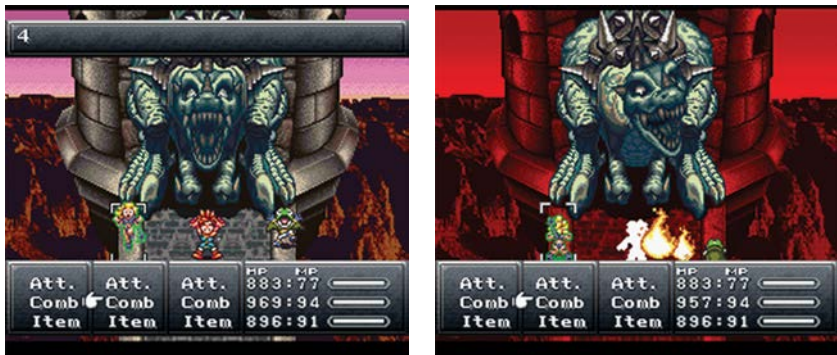
Because the Tyrano only uses two attacks, one of which is obviously telegraphed, the player shouldn't have much to fear. Even novice players will know to heal to full before the attack timer runs out. The designers had their reasons for doing this, however. The first reason is that such a big attack makes the fight feel epic. Although the Tyrano is not very dangerous because it is slow and obvious—it *is* the most powerful enemy in the game, up to that point. The second reason for the unique behavior of this boss is that stopping to heal makes the fight longer. This, combined with the Tyrano's massive amount of HP (over 10,000) means that this fight is going to go on for a good long while. That long duration, however, is the whole point.

After two back-to-back dungeons, a series of long boss fights, and a couple of big plot twists, there's a very good chance that the player will feel worn out. The long—but not particularly dangerous—Azala/Tyrano fight is just the final, climactic trick that the designers are using to make the player feel exhausted. This is entirely deliberate because the next quest is going to take advantage of that exhaustion to deliver
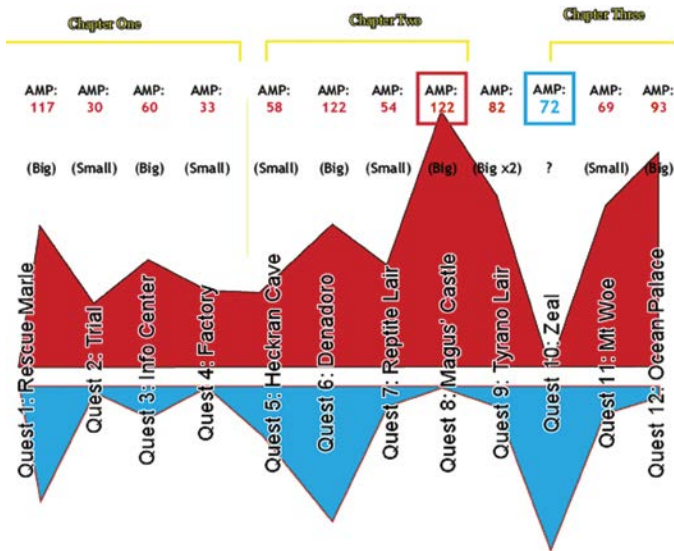
Quest Ten: How Did We Get Here?

Stat of the Quest: It's more of a list, really, but here are the five most crowded town screens in the game. (1) There are 24 people in Zeal Palace's main room, (2) 12 in Enhasa, (3) 12 in Earthbound Commons, (4) 11 in Kajar's main room, and (5) 11 in modern Guardia Castle. Four locations in the Kingdom of Zeal occupy the top spots on this list. This helps to explain why the Kingdom of Zeal feels so much grander than any previous location. It also explains why the designers felt comfortable telling the majority of the Zeal storyline through NPCs. There are an unusually high number of them, and they're concentrated in obvious places.

Quest ten is easily the game's most brilliant quest; it's arguably one of the best quests in any RPG ever. Yet, in order to understand why this quest is so brilliant, we have to understand its place in the greater sequence of the game. So, for a moment, we're going to take a break from our examination of individual quests and see the bigger picture of *Chrono Trigger*. We'll look back at the quests that led up to this point to see how the overall pacing of the game makes this quest special.

Below is a diagram I call an amplitude map. The point of the amplitude map is to measure how two contrasting game design elements are balanced in a level, quest, or section of a game. The contrasting elements in *Chrono Trigger* are combat and exploration. Combat is simple to define: to calculate it, I have simply counted the number of enemies in each quest, including bosses, which are weighted based on their relative HP totals. That number is used as a score, which is visualized on the bottom of the figure below. Exploration is a little more complex; the exploration score for a given quest is calculated from newly available NPC chatter, slightly weighted so that NPCs the player has never met score higher than NPCs the player has already encountered (although both are only scored if they have something

new to say in that quest). Additionally, any treasure chests available outside a dungeon are counted up and added to the exploration score. (In-dungeon chests are not counted, as they're almost always right in front of the player's face and they almost always require combat.) Over each quest is a total amplitude score, which combines the scores of the exploration and combat sections, giving us a final measure of how much content there is in each quest.

With this perspective, we'll do a quick recap and analysis. Quest one features a lot of exploration and a large dungeon and has a total score of 117. It makes sense to begin with a big quest; it's better to begin a game with a bang than to start too slowly. Quest two slows down a lot, and only has a score of 30, if you count the three questions asked at trial in the exploration score. We already examined how quest two does a lot of deceptive things to mislead players about what kind of game they're playing. That's an important little trick, but it takes place in a relatively brief quest. Quest three (amplitude 65) is a bit bigger, having two new "towns" and a decent number of combat encounters across the two segments of its dungeon. Quest four (amplitude 33) is slightly smaller because there is almost no exploration to be done at all. The bike race is a brief and rather tedious distraction, but it certainly doesn't have the player exploring anything.

Chapter One				Chapter Two					Chapter Three		
AMP: 117	AMP: 30	AMP: 60	AMP: 33	AMP: 58	AMP: 122	AMP: 54	AMP: 122	AMP: 82	AMP: 72	AMP: 69	AMP: 93
(Big)	(Small)	(Big)	(Small)	(Small)	(Big)	(Small)	(Big)	(Big x2)	?	(Small)	(Big)
Quest 1: Rescue Marle	Quest 2: Trial	Quest 3: Info Center	Quest 4: Factory	Quest 5: Heckran Cave	Quest 6: Denadoro	Quest 7: Reptile Lair	Quest 8: Magus' Castle	Quest 9: Tyrano Lair	Quest 10: Zeal	Quest 11: Mt Woe	Quest 12: Ocean Palace

The amplitude measurement of the first four quests is: 117, 30, 65, and 33, in that order. Or, in other words, the game alternates large and small quests. That's standard videogame pacing for a console game. The player may not have noticed this consciously, but the pattern is still important.

The first real turning point in the game's pacing comes in quest five, when the player is given the use of magic and is first able to travel through time at will.

To teach the player how to use magic without asking too much of him, quest five (amplitude 58) is a short quest, relative to the quests which come after it. The dungeon in quest five is also short. Quest six (amplitude 122) is huge, larger than anything the player has seen so far. That makes sense; quests ought to get longer and more challenging as the game goes on. But it's not just dungeon content; there are a lot of new NPCs to speak to in Dorino and Porre. A lot of the old NPCs have new things to say. The first truly difficult boss is also found at the end of this quest. Quest seven (amplitude 54) is relatively small, although it affords the player some optional battles.

By now, the player should have a conscious sense that the game alternates large and small quests. Additionally, based on what the player has seen in the plot, he or she should expect that quest eight, Magus's Castle, should be large. It is large (amplitude 122), and it's almost entirely made up of dungeon content. There's virtually no exploration (unless you count bringing Frog to Spekkio and learn magic), but it absolute delivers on the player's expectation. This is where *Chrono Trigger* starts to toy with player expectations. After telling the player that stopping Magus was the main quest, the designers reveal a much larger scope to the game.

After priming the player to expect short quests in between large ones, that pattern too is subverted in quest nine. Quest nine (amplitude 82) puts the player right back into a big dungeon. In addition to tiring the player out a little bit, this change in the pattern should also ensure that the player doesn't know what to expect. Especially when Lavos appears at the end the quest, once again changing the course of the story.

This brings us to quest ten, which is the game's most brilliant quest. This quest sends players through a mysterious gate, into the previously unknown Kingdom of Zeal. Using only text, it's difficult to recreate the sense of total surprise that I, like most players, felt the first time we arrived in the Kingdom of Zeal. Obviously, the existence of this totally unknown civilization is a surprising twist in the plot.
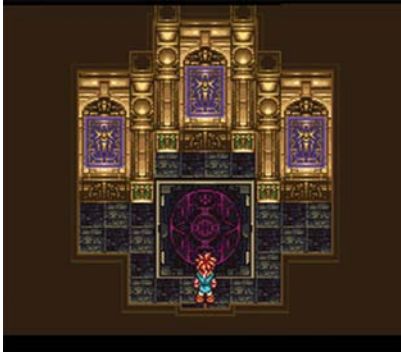
The setting is also striking, and the art direction still holds up after all these years, but there are also lots of radical game design decisions that the dev team has suddenly sprung on the player. One of *Chrono Trigger's* great strengths is that the player's goal has always been clear, but what is the quest objective in the Kingdom of Zeal? There isn't one explicitly stated. The player is just left to wander through several new towns. Up until this point, every quest has featured a dungeon, but now there isn't one! In fact, there are no mandatory battles until the boss fight.

One might expect that, because this quest lacks a dungeon, it would be especially heavy on plot. To a certain degree, that's true. The NPCs in the Kingdom of Zeal reveal a lot about their own time and the central plot of the game. But in another sense, this quest *isn't* that plot-heavy. There is only one scripted scene, just before the boss fight. Quest ten gives players a full 20–25 minutes to do nothing except explore the Kingdom of Zeal, talk to its citizens, search for secrets, collect a few treasures, and hear a whole lot about a mysterious pendant and all the special places it's connected to.

Why does the Kingdom of Zeal quest work so well, even though it violates both the framework set up by the rest of the game, and the norms of RPG quest design? The answer is that *Chrono Trigger* has been building toward this moment from the very beginning of the game. This groundwork breaks down into two strategies.

1. First, the designers create the illusion that Magus will be the main villain of the game. This is accomplished through the plot and pacing of the game. Then, they subvert the player's expectations with major plot revelations in quests eight and nine. The result of this is a feeling of confusion and curiosity in the player.
2. Second, the designers establish a pattern of alternating short and long quests. Then, they break that pattern in quests eight and nine, which force the player through two big quests made up mostly of two large dungeons. The result of this is a feeling of mild "dungeon fatigue."

Because the designers have already cultivated the player's curiosity with plot twists, the Kingdom of Zeal quest makes sense. The player, desirous of more information, is much more likely to take the time to talk to the dozens of NPCs in Enhasa, Kajar, and Zeal Palace. Because the player has just been through two huge dungeons in back-to-back quests, the lack of a dungeon in this quest is a relief rather than a flaw.

Of course, all the preparation and psychological trickery in the world wouldn't work if the Zeal quest was not also amazing in its own right. Thankfully, it is. As of this writing, the game is more than 20 years old, and so the graphics of *Chrono Trigger* are dated. Nevertheless, the art direction of the game is still amazing in context. First off, notice how ornate the tileset for Zeal is.
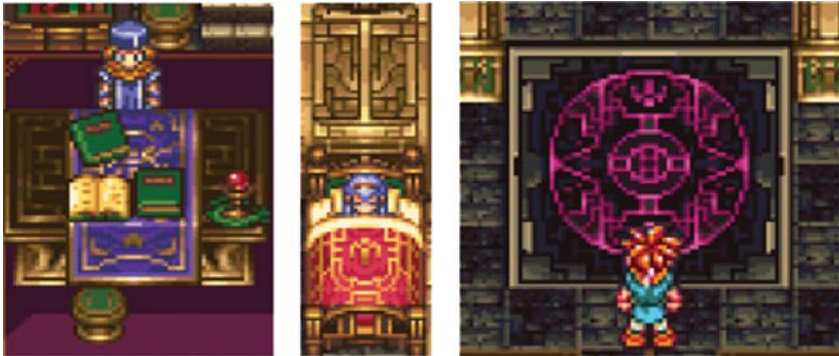

The technical image quality isn't any better than any other quest, but the amount of decorative detail on the objects is higher than anywhere else. For example, beds and counters from other times are far less detailed than what we see above.

Even the wall panels are elaborate and frequent. There are wall decorations in other eras, but none of them have the little details that Zeal does. In Kajar, the crest of Zeal is on virtually every surface. In addition to adding decorative detail, this foretells a major story point: that the sealed doors and chests originated in this era.

Even the lighting of non-explorable space helps to build the sense of place. Usually this space is black and cold and meant to be overlooked, but in Enhasa the artists used this empty space to capture the ambience of the soft golden light that shines eternally on Zeal.
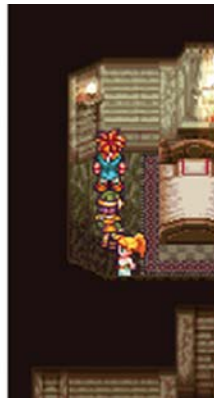
It's not just stylistic art touches that make Zeal so impressive; there are small symbolic details in Zeal that aren't present anywhere else. For example, in the entire rest of the game (besides Zeal) there are only eleven bookshelves—all of them in a meaningful place. Crono owns one. Lucca's house has two bookshelves (in different rooms), because she's the foremost inventor of the era.

The Cathedral has three, which makes sense since that's the center of scholarship in a medieval society. The mayors of Dorino and Porre each have a bookshelf to reflect their status. Melchior has two because he's a sage. For whatever reason, the carpenter in 600 AD Choras also has one; I guess he's doing well.

In total, that's eleven bookshelves across several different eras, geographical regions, and kinds of characters. The cities of Zeal have eighteen bookshelves between them. It's a rather intuitive and subtle touch, isn't it? Books symbolize knowledge. The architecture of Zeal draws upon that symbolism. It is a lost civilization that possessed knowledge of magic and the elements. It's not likely that players will consciously say, "Oh wow, bookshelves!" but it's likely that along with all the other small touches like the magical astrolabes and assorted enchanted knickknacks of Zeal, the player is going to come away with an impression of magnificence.

Another way this quest sets itself apart is through the introduction of several new characters. In Zeal Palace, the player encounters Dalton, Queen Zeal, Schala, Janus (if they haven't met him already), and the Prophet. This is not the first time the player has met a variety of NPCs with speaking parts in the main plot—not

by a long shot. Each one of these characters has his or her own unique sprite, which is fairly rare. Moreover, these characters behave a lot that is different from the other characters in the game. Rather than engage the party in direct combat, Dalton and Zeal fight them indirectly. Dalton and Zeal are too concerned with becoming immortal to take risks, and they're perfectly up front with that fact. This makes for a refreshing change from the fatalist Azala or the cryptic Magus. Both of those enemies are interesting and persuasive, but it's easy for a piece of popular media to march out a line of redundant villains who all act the same way. That isn't the case here.

Schala, on the other hand, is a figure who instantly and thoroughly embodies a tragic mood. Consider the first dialogue we hear from her.


(1) She agrees with Janus' sense of impending doom. (2) Her first impulse is to protect him. (3) She loves him but must be a dutiful daughter. (4) She seems to be genuinely interested in the party. (5) She apologizes to a servant. Add to this the beautiful but elegiac music that plays when she's introduced, and she might as well have crosshairs painted her forehead; she's way too nice for this game. But why introduce this character at all? In the most practical sense, she's immaterial to the plot. There's no reason that Queen Zeal, Dalton or the Prophet couldn't perform Schala's magical functions; they all possess powerful magic. I think that Schala's introduction isn't meant to accomplish something practical in the plot. Rather, I think that Schala's role in the story is to change the mood.

To explain what I mean, let us imagine that Crono had died in Magus's Castle or at the Tyrano lair. Would that seem appropriate? It would not, because it wouldn't match the mood of the quest. Most of the time, important characters simply don't die in *Chrono Trigger*. Magus survives his confrontation with the party. Ozzie, Slash, and Flea all survive their defeats. Even Azala survives the battle at the Tyrano Lair. Ayla offers to save her, she refuses, and then she dies off-screen when Lavos crashes down onto the planet. It would be strange if

the only major character to die on-screen were the protagonist. Schala changes that. She's likeable, she's dutiful, and she helps the party out of a bind. Schala's mistreatment at the hands of the Prophet and then the Queen signals a sharp change of mood. If someone like Schala can be a victim, so can someone like Crono.

Quest Eleven: And Back Again

Stat of the Quest: This graph shows EXP per battle across the course of the game.[10] There's a sharp increase in EXP per battle starting in quest eleven. It's totally normal for EXP rewards to increase across the course of any RPG. That said, the player's EXP needs don't actually grow in quest ten.

EXP ACROSS MAJOR DUNGEONS
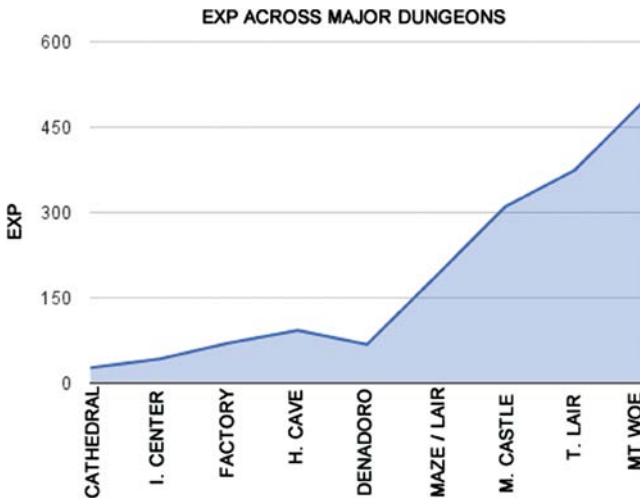
Thus, the player starts to gain levels a lot faster in quests eleven and twelve than in any previous quest. That surge in character levels will indicate to the player that something major about the game has changed, and it has! The game is moving towards the conclusion of the Tragedy. It's just another way that the gameplay and plot both speak to the player.

If there is one major flaw with *Chrono Trigger*, one that stands above the rest, it is the confusing direction that sends the player to the Keeper's Dome (where Balthasar has been) at the beginning of quest eleven. Many first-time players will *not* have noticed the southern stretch of land in 2300 AD, nor the Sewer Access tunnel that leads to it.
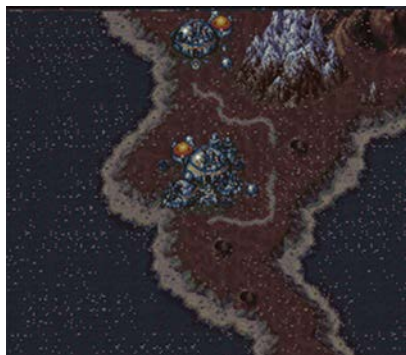
When the game displays a screen of the point that the player is "supposed" to have visited before, first-time players might simply say, "What the heck are they talking about?" Some more astute observers and RPG veterans might figure it out pretty quickly, but even if a sizeable minority of the players are baffled by this quest, it's way out of line with the rest of the game. *Chrono Trigger* quests have been tight, well-organized, and usually very clear about what must be done. The beginning of quest eleven is the worst *Chrono Trigger* has to offer in that regard. That said, it's not too terrible; the future is so sparsely populated that most players will eventually figure out where they need to go. It could just be a little more obvious. What saves the game is that this is an individual problem rather than a systemic problem; no other part of the game repeats the same error to the same degree.

Most of the action of this quest takes place in Zeal, once again. Now there are even more NPCs that assist in the worldbuilding of Zeal.
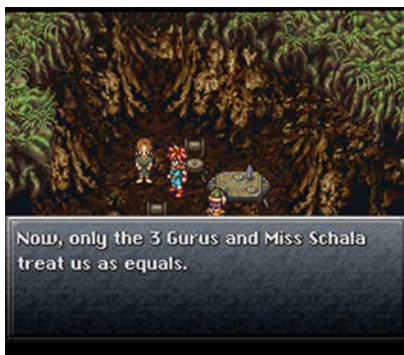
These NPCs are mostly confined to a few rooms rather than a real town, and so there isn't that much exploration for the player to do. The real focus of this quest is the large dungeon, Mount Woe.

Mount Woe is technically a two-part dungeon. Unlike earlier dungeons of the same type, the two parts don't break down evenly; most of the content comes after

the first save point. The enemies provide a lot of experience and tech points and are easy to defeat. None of the enemies have triggered vulnerability or comprehensive elemental absorption. The Gargoyle enemy has a tough attack that reduces party members' HP to one, but they very rarely use it. The Man Eaters, which aren't that powerful, can cause the Chaos status debuff, but they put out such a small amount of damage that they aren't dangerous.

In fact, this dungeon is unusual from a statistical standpoint; everything about the enemies is ramping up conspicuously, except the difficulty. Almost all of the enemies on Mount Woe have less HP than their counterparts in the Tyrano Lair and some even have less HP than the monsters in Magus's Castle.[11] It's easy to kill a lot of them very quickly, yet the EXP flows in great quantity.[12] This flood of EXP will result in the party gaining character levels very quickly. Veteran players know that, in a JRPG, characters level up more quickly at the *end* of the game. (Even novice players will feel excited by the sudden surge in power.) This is yet another manipulation. The game isn't going to end—but the designers want the player to feel like the climax of the story is coming soon.

For all the easy enemies and their plentiful rewards, the bosses in Mount Woe are big and, more importantly, they're more complex than earlier bosses. The Mud Imp and Beasts are the rarest kind of boss in *Chrono Trigger*—a boss with elemental affinities. The Blue Beast is immune to water; the Red Beast is immune to Fire. This might have forced the player to change his or her party composition, but both beasts have low physical defense, mitigating that need. The Mud Imp is a different story. It is highly resistant to physical damage, has a high general magic defense, and periodically heals. The Mud Imp does have an elemental weakness to exploit— lightning. Coincidentally, that is the one element the player *must* bring, since Crono cannot be removed from the party. Although the player probably doesn't have to change party members to prepare for this fight, he does have to use different elemental types on different targets. In *Chrono Trigger*, that's what passes for a complex battle.

The Giga Gaia, on the other hand, is the toughest boss up to this point in the game. It will kill new players at least once, probably twice or more. Giga Gaia is an evolved version of the Guardian boss from much earlier in the game, complete with three-part design and severe counterattack.

Attacking the main body while the two extra parts are alive will result in a severe counterattack that can instantly wipe out lower-level parties, and even can challenge higher-level groups because it can come twice in a row (for a total of four attacks). The other part of the evolution is that the arms will attack of their own initiative, in addition to counterattacking. Thus, the player will spend more time healing in this fight than in the fight with the Guardian, simply because the Giga Gaia will take more turns.

Quest Twelve: The Climax of the Tragedy

Stat of the Quest: Turning point! By the end of this quest the player will have fought very close to 75% of the battles in the game. On the other hand, they've only fought 46% of the bosses. (And they've only earned about 32% of the EXP, assuming they fight every battle in the game once… which is unlikely, but it's a good measure.) Many of the optional quests have no dungeon, but all of them have at least one boss.

If you hold at all to the notion that *Chrono Trigger* is two distinct games, then quest twelve is the climax of the first game. Even if you don't really buy into that view of the game, the party's confrontation with Lavos at the bottom of the Ocean Palace might still qualify as the climax of the game's plot, since Lavos appears and Crono dies, and the linear portion of the game ends. There are also lots of little details that enhance the climactic feeling. The new save point inside Zeal Palace, the two sets of flanking guards that wait outside the throne room both suggest that the game has gotten more serious.
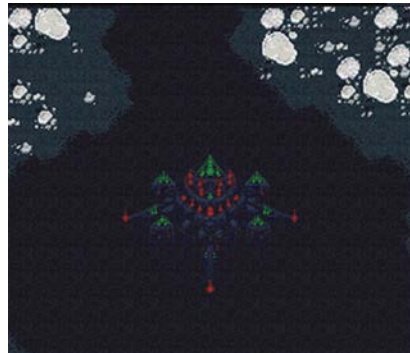
The beam that teleports the players to the massive, mysterious structure beneath the waves—this is the first object on the world map that has this level of animation. It's new, it's exciting, it's ominous.

Once inside the Ocean Palace, these "little touches" continue. Masa and Mune appear at the entrance to each section, acting the role of a Greek chorus, warning the party of the dangers ahead. After each warning, we see what's happening at the bottom of the palace, as well.

MUNE: The black energy grows...
Something scary is waking up!

SCHALA: D...dark...force...wild energy...!
Aughhh!

Although the player might not realize it, this is the first time he or she has been shown a scene in the present in which Crono does not appear. There have been flashbacks or recordings (Frog's flashbacks to Cyrus, the video of the Day of Lavos) but aside from those, Crono has been in every shot. That pattern is broken now. What the player sees in the plot increases the tension, but the mere fact that he or she is seeing it also tells them that something special is happening.

Another subtle marker indicating the climax to come is the presence of new enemy sprites, who have new kinds of abilities. It has been a long time since the game introduced new enemy sprites. Magus's castle introduces the Juggler-type enemy, but every other enemy is a recolor of some earlier type. The Dactyl Nest introduces the Avian Rex type enemy, but everything else in it and the Tyrano Lair—including one of the bosses—is just a recolor. The Ocean Palace introduces four entirely new sprites: The Scouts (Flyclopses), Lasher, Thrasher, and Mage. Lashers, Thrashers, and Scouts can perform proper double and triple techs—something we haven't really seen before in normal enemies. (The Acid/Alkaline enemies in the Factory Ruins could do a pale imitation called "Fusion"... but Scouts can cast Delta Force.) Moreover, Scouts have strong defense stats and are immune to all but one element each (the element varies based on enemy color). Thus, for the first time in the game, the mid-level dual techs that most players rely on will not be effective. The Mage enemy frequently casts debuffs—another rare trait in a common monster. The Jinn/Barghest combo also uses an evolved form of triggered vulnerability.

Protected by Barghest Shield

Barghest's Shield destroyed...

In order to make the Jinn vulnerable, the player has to kill the Barghest first. This kind of external shield will show up again in important boss fights later in the game.

The Ocean Palace also has a lot of especially strong gear available in treasure chests. Magus Castle threw seven pieces of gear at the party, as well as a bunch of consumable items. The Ocean Palace provides the party with eight new pieces of gear, but only one consumable item,an Elixir, which comes last. It's not that much more gear than other dungeons, but because the flow of gear is never interrupted by a Mid Tonic or a Shelter, it *feels* like more. Additionally, the gear is quite powerful. That Aeon Suit and Aeon Helm are powerful enough that the player will keep using them deep into the *Comedy of the Sages.*

The best and most deceptive evidence suggesting that the climax of the game is soon to happen is the number of tech points the player has accumulated so far. Assuming the player has only fought every enemy in the game just once, Crono should be within 300 points of learning Luminaire.
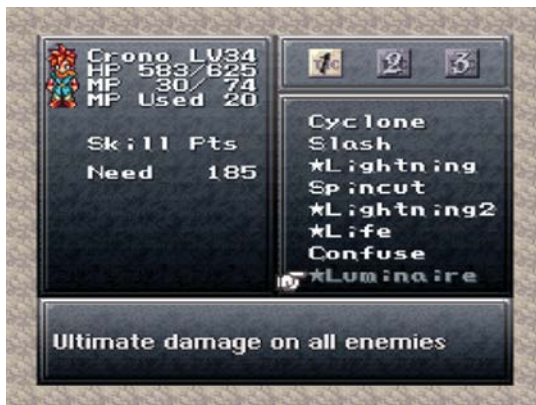
If the player has done any extra work at all, they're going to have not just Luminaire, but also a lot of the available triple techs. Arc Impulse, Triple, Delta Force, Delta Storm, and Fire Zone could all easily be in the player's arsenal. New players and experienced JRPG veterans alike would naturally expect that the game is coming to an end because there are no more abilities to learn. This is just an example of the designers deceiving the player through the interface.

In addition to all the new elements in the game, there is one element that the designers have been holding in their hands the entire game but are only deploying now. That element is their tragic hero, Crono. A good tragedy typically requires a fatal flaw in its main character. It would be charitable to call Crono a one-dimensional character; he barely exists as far as the fiction

goes. As an avatar that the player controls, and onto whom the player can project whatever they wish, Crono serves excellently. He is an archetype of the JRPG hero, put into the game to let the player kill the bad guys. That is his purpose and his destiny. The tragedy of Crono, his fatal flaw, is that he's a videogame hero. He has no choice, except to kill the bad guy. That's what he's there for!

Now is the time to turn back, nu...

Could you really take the Nu's advice, turn around, exit the dungeon, hop back in the time machine, and spend the rest of the game milling about the world map—if you continue playing at all? No, of course you can't. You, the player, and your avatar Crono, are bound to face Lavos. The choice is no choice at all. It's a fatal flaw not imposed by the story and not imposed by the characters, but imposed by the design of the game.

When Crono stands up after Lavos defeats the party, it is inevitability in action. Even if the player has no way to beat Lavos, he has no other choice but to face Lavos, because of JRPG genre conventions. Crono is doomed and the tragedy is complete. After his death, the party is thrown out of the temporal rift. The pendant that has effectively steered the course of the game at all the right moments seems to be responsible for this, although we might as well chalk it up to the "Entity," which has been putting on this play the whole time.

Robo Explains it All

Before we get to quest thirteen, the denouement of the tragedy, we're going to look back at the first twelve quests to show how *Chrono Trigger* has been deceiving the player this entire time. The chart below organizes the information for this discussion (Table 1.1).

Table 1.1 Quest Results

Quest	Dungeon	Boss Defeated	Historical Impact
Rescue Leene/ Marle	Cathedral	Yakra	Nothing; Frog would have rescued Leene anyway.
Guardia Prison	Prison	Dragon Tank	Nothing; takes place in the present.
Info Center	Lab/Info Center	Guardian	Nothing; the player is supposed to prevent this future from ever happening.
Factory	Factory Ruins	R-Series	Nothing; still takes place in the future you want to cancel.
Medina Village	Heckran Cave	Heckran	Nothing; the Mystics live in isolation.
Find the Masamune	Denadoro Mountains	Masa & Mune	Nothing yet. The Masamune is broken.
Prehistory	Reptite Lair	Nothing	Nothing; Crono gets the Dreamstone but does not affect the conflict w/ Reptites.
Defeat Magus	Magus's Castle	Slash, Flea, Magus	Nothing; the Millenial Fair commemorates Magus's defeat. Somebody else killed him.
Defeat Azala, rescue Kino	Tyrano Lair	Nizbel 2, Azala, Black Tyrano	Nothing; even if Ayla had lost, Lavos would have annihilated the reptites.
Explore Zeal	None!	Golem	Nothing; you really don't do anything.
Mount Woe	Beast Nest, Mount Woe	Mud Imp, Giga Gaia	Nothing yet. Dalton still captures Schala and takes her to the Ocean Palace.
The Climax	Ocean Palace	Dalton, Golem Twins, Lavos	Nothing; Zeal is still destroyed. History proceeds as before, but now the Black Omen is visible in the sky.

This is probably at odds with what the player feels. The player feels like he or she defeated Magus, that defeated Azala, brought hope to the future, rescued Queen Leene, and so on. The truth is that all of those things are historically insignificant. The Millennial Fair is an event that commemorates the defeat of Magus.

Presumably, Magus died while summoning Lavos, since his encounter with him at the Ocean Palace ends in defeat as well. The Reptites were wiped out by Lavos and the ice age that followed his arrival. The future remains as bleak as ever, despite the party's actions, because Lavos still reigns over the wasteland. There's an ongoing theme here: Lavos is at the center of everything, and all attempts to change history are disrupted by his presence.

The point of the Tragedy of the Entity is to make the party (and the player, through the gameplay) understand the Entity's grief. The Entity and its fellow beings have been the victim of Lavos time and again. Lavos has destroyed civilizations and species, warped the planet to its own ends, and then sucked the life out of it. (The general consensus among fans of the game is that the Entity is a kind of animist incarnation of the planet—a kind of nature god.) The tragedy that culminates in the death of Crono is supposed to mirror the experience of the Entity for the player. Robo points this out in the second part of the game.

One of the most brilliant aspects of *Chrono Trigger's* design is that it forces the player to experience the same frustration in real life that the Entity experiences in the fictional world of the game. The player's party cannot defeat Lavos, just as the planet cannot defeat Lavos. The player loses the main (and most powerful) character, just as the planet has lost civilizations and even whole species because of Lavos. And nowhere does the gameplay communicate this theme more clearly than in quest thirteen, the final moments of the Tragedy.

Quest Thirteen: How it Feels to be Powerless

Stat of the Quest: Was Crono the player's best character? Well, it depends what you mean by that. Crono is useful in battles that require both physical and magical damage, which is rare. After you get his best weapon, he deals the highest average attack damage, at least until Ayla hits level 95. If we look at dual techs, the picture becomes even more complicated. From levels 20–60, dual techs that don't include Crono tend to be about 13% more powerful than those that do. On the other hand,

Crono's dual techs are more efficient; on average from levels 20–60 they deal about 18% more damage per point of MP spent.[13] Thanks to the way that damage formulas work, this damage/efficiency gap widens as the party grows in level. This, I think, is a product of Crono having so many early, low-level dual techs with so many characters—techs essential to the player's survival in the early game.

Quest thirteen is easily the most annoying quest in the game, but this is entirely by design. The point of quest thirteen is to act as the denouement to the tragedy that peaked in quest twelve. Quest thirteen adds insult to injury. Not only has the player just lost the best character, the foundation of all their best dual and triple techs, but now the game has taken away all the party's gear and items too! Moreover, the party composition is locked, and as it happened suddenly, the party might be made up of some characters who haven't learned many techs. This is yet another example of the design of the game cohering to the plot and themes. A moment of despair and frustration for the characters is mirrored in the frustrating gameplay.

To compound the player's frustration, quest thirteen takes place in a frustrating dungeon. Properly speaking, the Blackbird is not a maze, because it's laid out on a grid.

Once the player can visualize the way the air ducts and cells overlap, it's not hard to navigate. There's only one instance where the player cannot access a room with an item chest in it from the main floor. That said, the dungeon is still frustrating because the player has to climb up and down between the two levels and must avoid combat for lack of equipment and items. Ayla can fight even without her gear, but if she's using techs, she's got nothing to replenish her MP with (and the same is true for whoever is healing). The Basher and Byte enemies are, fortunately, pathetic; they have HP and damage more suited to Denadoro or the Reptite Lair. But if Ayla wasn't in the main party and hasn't learned a lot of useful techs, it can be a nerve-wracking first trip through the dungeon for a first-time player, as the HP of the party is slowly whittled away, with nothing to restore it.

The Blackbird isn't meant to be deadly; it's just meant to *feel* deadly because the player has lost Crono and all their gear. It's just the last artful deception in a game full of them. The Golem Boss is yet another part of this attempt to disconcert the player. The Golem Boss counts down as though he were about to unleash a massive attack, the way the Black Tyrano did in quest nine. Naturally, first time players will go all out to try to kill him in a rush. The countdown is a red herring, however; there is no attack at the end of the countdown. The boss seems like it might be dangerous, but it's just a trick to make the player nervous.

2

The *Comedy of the Sages*

One thing the player ought to have noticed while playing through the Tragedy of the Entity is that *Chrono Trigger* has been extremely linear. For a game ostensibly about time travel, this is curious. Even while in possession of a time machine, the player has been mostly unable to control where or when the party was headed. Whenever and wherever the party went, their historical impact was basically nothing. Indeed, not only was the quest linear in the first part of *Chrono Trigger*, but the world in which those quests took place was basically static. When the player finished a quest, there were very few signs of change, except for that some NPCs would react with a kind of "Way to go!" phrase, if they were local to the events of the quest. This changes completely in the *Comedy of the Sages*. In the second half of the game, the player gains freedom, agency, variety in quest structures, and a much different ending.

To some degree, this style of second-half gameplay is built out of JRPG orthodoxy and *Chrono Trigger's* adherence to it, but there are a couple of reasons why the mold doesn't fit exactly. The key aspect of *Chrono Trigger* that separates it from typical JPRGs is that the difference between halves is much more marked than other JRPGs. It is a common structure in JRPGs for the end of the game to be

more open, non-linear, varied, etc., than the beginning. Most of the Final Fantasy titles operate like this. The player must master the systems the game teaches before being let loose to tackle the most difficult content. *Chrono Trigger* does fit this trend, and it's arguable that the second part of the game is merely the non-linear ending that many JRPGs of the 90s offered, but again those differences arise. First of all, most JRPGs of the time (but especially Squaresoft titles) offered freedom earlier in the game. Final Fantasy games often see the player acquire an airship or other vehicle before the halfway point. That is, the player gets to practice some non-linear gameplay before it's the only option. In *Chrono Trigger,* there's only one small detour (the Dactyl Nest/Hunting Grounds) that's practical to do out of sequence. When the game finally does open up, the non-linearity, it affords is more profound than in any other JRPG of the time. The player gains access to many quests that have no dungeon, is able to use time travel as a puzzle mechanic and gains the ability to cause changes in the game world far more profound than in other games. We'll get into specific examples of these things in the quests to come.

Quest 14: What Else is a Time Machine For?

Stat of the Quest: The *Tragedy of the Entity* contains more than two-thirds of the quest-specific loot in the game (i.e., loot found on a quest, not just out in the world, like the sealed chests), but only 30% of those items are gear the player can wear. The rest are consumable items. During the *Comedy of the Sages*, 43% of the remaining treasure is gear rather than consumable items. This is generally in line with RPG orthodoxy, where the best loot in the game must be earned rather than purchased. Still, compared to other Squaresoft RPGs of the time, *Chrono Trigger* dispenses a surprisingly high number of consumable items in the second half of the game. Given that MP are so cheap (see section three of this book) and healing abilities are so powerful, this is a strange design decision. The player doesn't really need those items. One explanation for this is loss aversion. A player with one or two megalixirs will never use them. A player with 10 megalixirs will use a few. Perhaps the designers gave the player so many powerful items in order to get around this mental block.

Quest 14 is optional, but I count it as the last quest to be done in order before the game throws the gates completely open, since it makes the most sense for the player to re-acquire Crono before taking on the rest of the game. This quest functions as an introduction the time-hopping mechanics of the other quests in the *Comedy of the Sages*. Until now, quests have almost always offered the player a town, a dungeon, and a boss or two. Most quests have featured a merchant that sells a new set of gear somewhere along the way. Most dungeons have been basically divisible into two halves with a save point, or has been short enough that its structure was irrelevant (with a couple exceptions). Quest 14 sticks with some

of this, but scrambles the order. There's no new town, but the merchant at Last Village has new equipment to sell. Instead of exploring a new geographic area, the party skips about through time to get the Time Egg, the Clone, and finally Balthasar's specially-made Pyozo dolls.

Death Peak is still a conventional two-part dungeon, but there are a few differences from the earlier template of combat sections. Enemy-wise, Death Peak is a short dungeon. There are only 27 enemies, 21 of which are the short-lived Krakker.
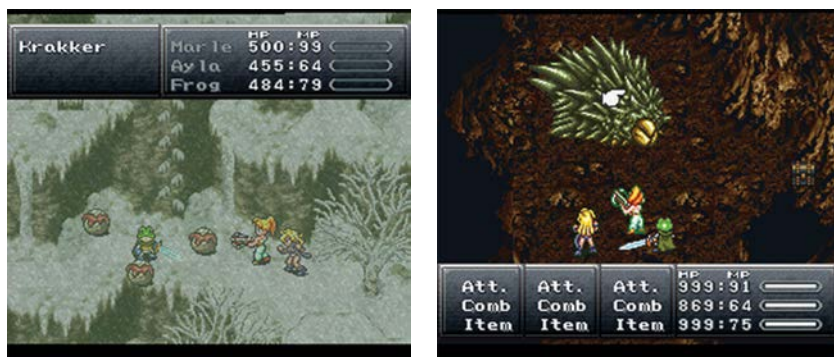
The dungeon's duration is greatly extended by the three boss battles with Lavos Spawn. Any hits to the Spawn's shell will result in a high-damage counterattack. This makes the enemy seem like the Guardian and Giga Gaia, but it lacks three parts and doesn't have any of their other behaviors. The Lavos Spawn does have a tricky evolution, however—one that takes place not in the statistical systems, but rather in the game's UI. The battle cursor automatically starts on the shell, which will cause careless players to incur lots of accidental damage. Even properly fought, it's not an easy fight the first time through because Crono (who is the backbone of most double and triple techs) is not present.

Death Peak prepares the player for the dungeons to come. In a typical JRPG, dungeons in the back half of the game are longer, and there's a lot less to do outside of them. In *Chrono Trigger*, dungeons generally get shorter and denser with more emphasis on difficult boss fights. In fact, two quests (both of which hardly have dungeons at all) are going to be exclusively boss fights. This is a departure from conventional JRPG design, but it works really well for *Chrono Trigger*. Bosses in *Chrono Trigger* are a great place for the player to use all the flashy triple techs the game has.

The most important aspect of this quest is that it has meaningful results. At long last, history can be meaningfully rewritten—beginning with the retrieval of a lost party member.
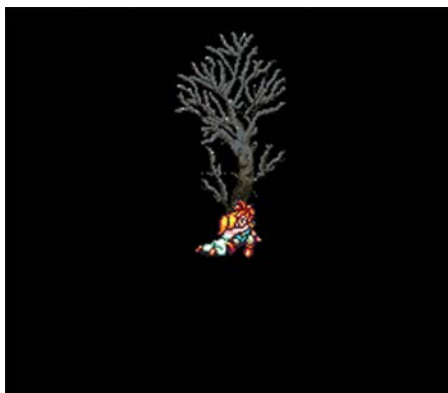
This is a theme that will play out in every quest for the rest of the game.

Quest A: Fiona's Forest

Stat of the Quest: The bosses in the second half of *Chrono Trigger* get harder, and the quests become non-linear. One thing that stays very linear throughout the second half of the game is the stat system; it is uncanny how linear it is, in fact.[14]
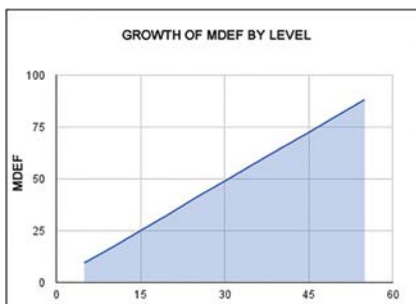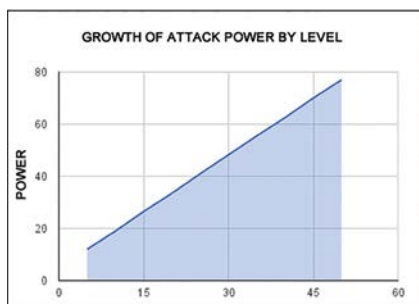
The linearity you see here is probably a product of the game's broad audience (an issue we'll discuss more later). There are no real "break points" that would frustrate a player, as there are in many RPGs; one level is basically as valuable as the next.

The quests after the Blackbird can be done in any order—not just theoretically in any order but *actually* in any order. That said, there is a useful "gateway" quest for the *Comedy of the Sages*: Fiona's forest. It's not necessary to do the quest before going on to the others at all, but it works quite well as a spot-check for all the skills (and equipment) the player is going to need for this half of the game. If the player can do this quest and beat the boss, he can do the rest of the quests without too much trouble (or having to do too much grinding). As in Death Peak, this

quest is dense and boss-centric. All 22 enemies are in one room, and the boss will probably take half the total time to defeat. Depending on the player's level and equipment, the encounters can be difficult. The Hexapod enemy has a high resistance to physical damage, and a lot of HP. Like most monsters of this sort, however, it's got a triggered vulnerability to exploit. Water-elemental attacks will lower the Hexapod's defenses, allowing for quicker kills. By now, the player almost certainly has either Ice 2 or Water 2, making sure that whole groups of Hexapods can be hit for their vulnerability at once.

The boss of the Sunken Desert, the Retinite, is a very important spot-check for the player's understanding of two game systems. The first check is on party composition. The Retinite is very highly resistant to damage unless hit by a water-elemental attack first. Thus, the player must bring Marle or Frog. Like Nizbel II, its immunity returns after taking damage while vulnerable. Thus, one party member will spend most of his or her turns constantly triggering the enemy's vulnerability. This also makes the player's use of turns more tactical, as someone has to take a break from healing or triggering in order to heal. The other system the player needs to recognize here is elemental affinities. I have said before that elemental resistance is a very minor factor for most enemies. That's still true. For *player characters*, however, the elemental alignment system is enormously useful, especially in the second half of the game. The player has access to lots of gear which can mitigate elemental damage. The Retinite puts out a lot of shadow-elemental damage. Having the right gear (Black Mail, Black Vest) makes this battle much easier.

Quest B: Ozzie's Short Fort

Stat of the Quest: Although enemies can drop a variety of consumable items at the end of a battle, there are no enemies that drop equipment. On the other hand, it is possible to steal equipment from monsters, but almost all of them are items the player can get elsewhere, and the player can usually buy those items before they can be stolen. Only 14% of all stealable items are unique, almost all of which come from this quest.[15]

Ozzie's Fort is straightforward and quick: it consists entirely of three boss fights. There's not an enormous amount to say about this dungeon, however, because it's so short; there's basically only the climactic fight.

The three-boss fight against Ozzie, Flea, and Slash isn't complicated from a mechanical standpoint. The three bosses do use a triple tech as a counterattack, but there's no real strategy to avoiding it except to focus all attacks on one enemy at a time. The real idea behind the fight is to allow the player a chance to steal from each enemy. The problem is that of all the available items, only the Flea Vest is any good. The Slasher 2 is powerful, but the Swallow is better. The Ozzie Pants, which confer a debuff on the wearer, are a joke.

Quest C: The Sun Stone

Stat of the Quest: Elemental defenses are less common in *Chrono Trigger* than they are in most 90s JRPGs. The elemental defenses that do exist are distributed unevenly. 25% of enemy elemental defenses are for fire, 19% are for lightning, 32% are for shadow, and 11% are for either water or all elements together, respectively.[16] Why is shadow resistance so high? Very few attacks are shadow-elemental, and the characters who use them (Robo and Magus) have access to other powerful attacks. That only 11% are for water makes more sense: there are two water characters. Party composition would be severely limited if water resistance were especially common.

Veterans of *Chrono Trigger* probably remember the Sun Stone quest as being short and easy. To first-time players, especially those brave enough not to use a walkthrough, it can be very complicated. This is a common problem when looking back at classic games. Because millions of people have memorized how to do this quest, they overlook all the little details that make this quest possible for first-time players.

Defeat Son of Sun

The Son of Sun encounter is almost completely dependent on pre-battle preparation rather than in-battle execution. After Son of Sun's Flare spells wipe the party out a few times, the player will begin to wonder how it's possible to survive. After all, the party has been close to max HP for a while now, but that Flare hits like a truck. Magic or elemental defenses are key to surviving the fight, but neither of those things has been readily available up to this point in the game. This forces the player to begin exploring the world and different time periods to acquire gear. Without having to venture into any large dungeons, there are several pieces of gear that are enormously useful for this quest. The Red Vest and Red Mail can both be obtained simply by venturing into Guardia Castle in two different Eras. Although they may not remember it, they player has seen this chest before when visiting Guardia Castle for the first time.

This armor absorbs fire and effectively makes a character invulnerable to Son of Son. There is also the Ruby Armor, which is only slightly less effective. Talking to Ayla at the End of Time will point the player in the direction of the armor.

There are also several other ways to acquire a large amount of extra magic defense. The Cyrus/Frog quest will yield Moon armor (+10 magic defense), the Rainbow Shell will yield the Prism Helms (+9) and the Ozzie quest yields the Flea Vest (+12). Additionally, the Magic Cave contains a sealed chest with the Wall Ring (+10) in it, which the player has seen on their earlier trip. This is beginning to sound like a walkthrough, but that's not the point. The point is that no matter what the player does—no matter what quest they choose instead of this one—there's a good chance that they'll find an item that helps them complete this one. That's the mark of a good non-linear game.

Charge the Sun Stone

The next step is to charge the Sunstone and deal with a bunch of time-hopping puzzles. Even if the player doesn't remember the NPC in Zeal talking about how "it would take aeons" for the rock to get its glow back, someone in the party will mention charging it up again.

It's not hard to put together that this means taking it back as far as possible into the past—that is, 65,000,000 BC—and letting it warm up. The puzzle of the quest is finding out who stole the stone and how to get it back from them.

The one piece of this puzzle I don't like is the search for the Sun Stone in 1000 AD. Once the stone has been stolen, the player doesn't have much choice except to fly the Epoch around the world, looking for some kind of sign.

The sign itself is clear, but why does the player have to fly to the other corner of the world to find it? There's nothing intuitive about that at all. Even the beginning of this quest is easier to find. Sun Keep might be in an obscure location, but it stands out on the map.
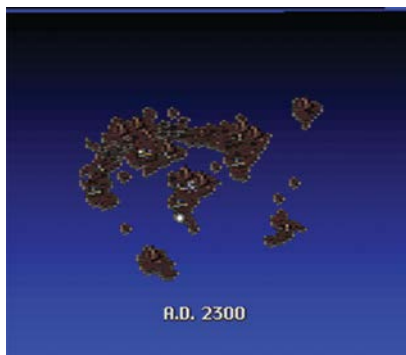
A lone island in the middle of the ocean is like a magnet to JRPG veterans. The stolen Sun Stone, by contrast, is tucked away in a nondescript suburb. Now, once the player has found the location, the puzzle becomes a lot more intuitive, however. This guy obviously has the stone and his kids all say he's a jerk who would never hand it back over.

Moon Stone?
Never heard of it!

There is no hint, but there doesn't need to be. The solution to this puzzle is completely intuitive. It's the same solution employed in every other quest in the *Comedy of the Sages*: change the past by traveling through time. As most of us know by now, there's a matron in 600 AD who is the key, located in the same building 400 years earlier. Performing a short fetch quest for her (by once again travelling through time) will change the mayor's personality.

Profit

The Sun Stone quest continues to be interesting, from a design perspective, in the way it implements quest rewards. Lucca's best weapon and some mediocre eyewear are poor rewards for all the effort that went into figuring out this quest. The real reward—and the moment where the player will be impressed—is in the fact that the Sun Stone is necessary to activate all the rewards from *another* quest. This is atypical for a JRPG. Some other games have interconnected non-linear quests, but it's rare for the quest rewards to interact with one another. Nevertheless, two of the best items in the game can be had this way.

Quest D: The Rainbow Shell

Stat of the Quest: There are more than 50 types of non-boss enemies if you're counting sprites (although, it does depend on how you count combinations and monsters who serve as boss components). About 12% of those sprites are used only once, while the rest get recolored at least one time. Part of the way that Squaresoft gets around so much recoloring is that most of the recolors happen only in the same time period. Only 21% of recolors happen across more than one time period. The effect is that the recolors seem like different species in a genus of a single era or different levels of hierarchy among an order of monster in an era.

The quest to find the Rainbow Shell makes for a great comparison to the Sun Stone quest. Like the Sun Stone quest, the quest to find the Rainbow Shell brushes

up against several others. As we just saw, this quest can't be finished without the Sun Stone. But players starting this quest can easily—even accidentally—start the Hero's Grave quest at the same time. Both quests begin on the continent of Choras, which is unreachable before the player acquires the Epoch. The key difference between this quest and the Sun Stone quest is that the clues to find it are much more helpful. Giant's claw is a nondescript island, but talking to Toma's ghost at his grave will reveal it.

Moreover, the relevant island is quite close to the start of the quest. I think that the designers did a better job of respecting the player's time than in the middle part of the Sun Stone quest.

Giant's Claw, or the sunken Tyrano Lair is really the only "vanilla" dungeon in the second part of *Chrono Trigger*. There are no real puzzles, there aren't many enemies (only 26), and there's only one boss. The monsters within are mostly powered-up versions of enemies seen at the original Tyrano Lair. (The Lizardactyl gains some elemental resistance, a change from its ancestor.) The best feature of the dungeon is its boss, the Rust Tyrano.

With more HP than any boss except Lavos,[17] the Rust Tyrano is really a kind of joyride. It does hit hard with its countdown/fire breath attack, just like its ancestor did, but the battle isn't hard. It can be kind of satisfying to just pound the Tyrano with triple techs over and over again, only stopping to heal once in a while. The boss doesn't change phases or activate a triggered vulnerability; it doesn't counterattack. It just sort of sits there, occasionally blasting the party for a large amount of predictable damage. This damage does go up each use of the ability, although not by much. Either the party dies, or they wail on a giant dinosaur with their best attacks for 25,000 points worth of damage.

The Trial

The second part of the quest sees the party once again changing history in a meaningful way. This time it's Marle's father who has been affected. (I'm not sure why the selling of a national treasure counts as treason for a monarch, but I don't make the rules.) Unlike the previous trial, the *only* tricky part of this battle is

the boss fight with Yakra XIII. In addition to using high-damage attacks, he also frequently disables one of the characters with the chaos debuff. In fact, Yakra VIII uses this debuff more than any other character in the game, except for the various forms of Lavos.

The most interesting part of this quest from a design perspective is the reward that it offers. Melchior offers the player the choice between the Prism Dress and the Prism Helm. Although both items are excellent, this is a classic case of an item's prose description not reflecting its true value.

The Prism Helm is one of the most powerful items in the game. It has high defense (for a helm), a huge bonus to magic defense, and it also prevents *all debuffs*. In another Squaresoft game, the effects of this item would be spread across two or three items. The Prism Dress is also excellent, but I don't think that first-time players have a clear picture of the choice they're making. They can't know the value of each item without seeing them first. But this isn't a game-breaking flaw, because the choice isn't between a good item and a bad item—it's between a great item and the best item.

Quest E: The Geno Dome

> *Stat of the Quest*: There are a lot of three-piece boss battles in the game, but there are only two bosses with more parts than that. Interestingly, both those boss battles occur in factories in the future. The R-Series Battle is six enemies in the Factory Ruins, and the Mother Brain is four enemies in the Geno Dome manufacturing center. (Let's hear it for mass production!) As a function of having so many parts, each part of these bosses have conspicuously low HP for the level at which they take place. This is a strange decision for a game so full of powerful, multi-target dual and triple techs. Without some kind of shield (like the Jinn and Lavos core have) those extra parts are just cannon fodder.

The Geno Dome is the third largest dungeon in the game and the largest of the optional quests, except for the Black Omen. This dungeon also highlights the one *systemic* problem with the *Comedy of the Sages*. There are 53 enemies in the Geno Dome, far more than any Comedy dungeon except the Black Omen. Yet, a single, full clear of the

Geno Dome will still offer less total EXP than a single, full clear of the Ocean Palace. Players who avoided combat or otherwise did not collect a normal amount of EXP may arrive in the *Comedy of the Sages* at an inappropriately low level. If so, it's hard for those players to make up their EXP deficit. The enemies in the Sunken Desert (Fiona's Forest) do not respawn. There are no common enemies in Ozzy's Fort. There are no enemies in the Sun Palace. There are relatively few enemies in Giant's Claw. The Black Omen offers unlimited battles, but the front entrance is guarded by a boss who will probably be too tough for characters who are under-leveled.

Thus, the Geno Dome could be a little more rewarding in terms of EXP offered. Like everything else, this isn't a game-breaking problem. Most of the power the player is meant to acquire is in the form of items rather than levels, but it would help new players if levels were a little easier to grind in the second half of the game.

The Geno Dome has the only examples of classical dungeon puzzles in *Chrono Trigger*. Some dungeons (Magus's Castle) have minor puzzle elements, and a couple of dungeons have confusing layouts (Guardia Prison, the Blackbird), but only the Geno Dome has the kind of puzzle elements common to A Link to the Past and Secret of Mana. In order to access the keys to the final door, Robo himself serves part of a puzzle. Robo must rush from a centrally-positioned charger to various ports scattered throughout the factory.

That part of the puzzle is straightforward and doesn't warrant further examination. Immediately after that one, we have the only puzzle in the game that takes advantage of the "enemies on screen" feature for which *Chrono Trigger* was famous. In order to access the final key item, the player has to escort this robot all the way across the factory.

If the player avoided the two Debuggests earlier and encounters them now, the trailing robot will be scared off by the battle. It's a shame that this wasn't a more challenging puzzle; the player can simply kill the Debuggest on an earlier pass without any further difficulty. Having to evade monsters is a skill that many players will have developed over time, and it would have been nice to see that skill put to use here in a larger gauntlet of enemies to avoid.

Quest F: Cyrus' Tomb (Northern Ruins)

Stat of the Quest: Price check! MP are cheap in *Chrono Trigger*—very cheap in fact, it's a driving reason why many experienced JRPG players will think the game too easy. There's basically never a time the player is out of MP with no way to fix that problem. Ethers, the item that supplies MP, can be purchased for a low price and are found in almost any quest. A regular Ether costs 800, or about 80 gold per point of MP restored. The Full Ether and Hyperether both offer significantly more MP (60 and 99, respectively) but at a cost of about 100 gold per MP restored. Interestingly, the Mid Ether is a better deal than either of these. For 2000 gold, it offers 30 MP, or a rate of about 66 gold per MP. Whether this is a math error on the designers part or not, Mid Ethers are the bread-and-butter of recovering MP away from a save point.

The interesting (or annoying, depending on your perspective) thing about Cyrus' Tomb is that it inverts the normal course of *Chrono Trigger* dungeon gameplay. Most of the time, players will either be forced to fight an enemy that is in their path or be able to sneak around it. In the Tomb, players must actively seek out fights to make sure that the area is clear for the carpenters who will come in to fix it. Some of those enemies can be difficult to find on the first pass.

There are a couple of other structural oddities. For one thing, many of the enemies are vulnerable only to magic damage, which is not too strange, but the Sentry enemy will frequently counterattack with a spell that completely drains the attacking character's MP. Although MP is cheap, constantly having to refill it from the menu screen is a tiresome task. The other strange part of this dungeon is that the party has to leave and re-enter it several times. These trips out do make the loss of MP a little less onerous, as a quick use of a Shelter on the world map will bring it all back. Nevertheless, those trips feel a little more like busy-work than puzzle-solving.

Refreshingly, there's no boss in this quest, despite the fact that the player is able to get two great pieces of armor (Moon Armor, Nova Armor), as well as final weapons for Frog and Marle. The other weapon on location is another Katana for Crono. Why does Crono have so many Katanas in the second half of the game? The Swallow is better than almost all of them because of its speed perk, and then the Rainbow is the best weapon in the game. Those weapons make all the other katanas obsolete. The only explanation I can offer is that every quest offers Crono a good item so that the player can pursue the quests in any order. Crono isn't a mandatory party member in the *Comedy of the Sages*, but the player would be crazy not to use him. If there's a katana in every quest, every quest will make the party more powerful.

Quest Z: The Black Omen

Stat of the Quest: Of the non-boss enemies leading up to this quest, only 35% must be fought. That means most of the enemies in the game can be avoided entirely! Sometimes it's difficult to do, but it's possible to fight very infrequently in *Chrono Trigger*. That trend lasts until the Black Omen. Inside the Omen, 71% of enemies must be fought. It's another way the designers use gameplay mechanics to embellish the artistic effects of the game. The Omen feels longer, more arduous and more climactic because of the unavoidable battles.

The Black Omen is a final dungeon in the mode of most JRPG final dungeons: it has lots of tough enemies, a few useful end-game items, a handful of bosses, save points aplenty, and an escape route. A lot of these things highlight trends in *Chrono Trigger* that make the game remarkable. For instance, we expect there to be dozens, if not hundreds of medium-difficulty enemy encounters on the way through a final dungeon. The Black Omen doesn't disappoint; there are more enemies in it than anywhere else. In every other dungeon in the game, most of those encounters were avoidable. This is a natural product of enemies being on-screen instead of being random encounters; some enemies can be seen and evaded.

In fact, as we noted in the headnote, only a minority of the enemies in the game must be fought, as long as we're not counting the Black Omen. Again, some of this is programmer error, like the third sequence of battles in Magus Castle, all of which are avoidable even though they clearly shouldn't be. Most of it is just something that players are allowed to do. It wouldn't make for a good game on the theme of inevitability if all enemies were uniformly inevitable, would it? The Black Omen, on the other hand, is filled with unavoidable enemies. It's hard to say whether there's a message encoded into that, but the player will feel the difference from even the most climactic dungeons of the earlier game.

In the Black Omen, virtually every enemy must be defeated by techs. Throughout the game, the player has been confronted with enemies that must be defeated by techs. Sometimes this means enemies have high defense, sometimes it means they have high evade, and sometimes those enemies have a vulnerability that is triggered by magic. In the Black Omen, enemies must be defeated by techs because they have so much HP. Below level 95, the most damage a normal attack can do is about 1500 (Crono's frequent critical hits with the Rainbow). Before the Omen, there were only eight enemies with that much HP, and all of them were in Giant's Claw. In the Black Omen, there are 49 monsters with more than 1500 HP.[18] This means that dual techs (being way more cost effective than single techs, as we'll see later) will be necessary constantly. There are more than enough save points in the Black Omen, so the player doesn't have to worry about MP. If the player hasn't figured out which dual techs are the most powerful by now, the Black Omen will force him or her to figure it out.

Although enemies in the Black Omen have a lot more HP than enemies in other dungeons, the overall difficulty of the game does not rise that much. Underleveled and undergeared players will have a very hard time with the Mega Mutant, but most of bosses in the Black Omen are easy at the appropriate level. The first four of them use the confuse debuff, but there's a variety of gear that can prevent that, if the player has done the appropriate quests. The second and third bosses are also immune to physical damage, but are not immune to any form of magical damage. Party composition has never been a huge factor in this game, but these two bosses do require the player to rely on magic-users.

We're going to skip the Lavos Spawn, as it's not different enough from its earlier version of its forebears with a few additional attacks, and has nothing on the next few bosses, all of whom are bit more interesting.

Queen Zeal's first form is unusual for *Chrono Trigger*, but is common for Squaresoft games of the 1990s. Her signature attack, "Hallation," brings the entire party to 1 HP. This attack is like a jump-scare in a horror film; there's no real threat behind it. Zeal's speed stat is low and her AI script is set up so that she can never follow that attack up with a second one. Like so many parts of *Chrono Trigger*, this fight is an example of the designers using the mechanics to manipulate the player's state of mind.

The Mammon Machine is another magic-only fight, although it might take players a round or two to figure this out. Because almost every party member will have a high magic defense (the average is 82 at level 50 without any supporting items)[19] it's not a hard battle, and it's not very interesting; the Machine gains power from magic attacks and defense from physical attacks. The fight is so strangely easy that I think it must be another artifact of a previous version of the game. The *idea* of a boss that gets stronger every turn is clever, and exists in several other Squaresoft games. The Opiomorph battle near the end of Xenogears has a similar dynamic, but that fight is much harder. The Mammon Machine seems to have been re-balanced too aggressively during the final revision of *Chrono Trigger's* difficulty, although that is an educated guess rather than a statement based on data in the game itself.

Queen Zeal's second form is a wonderful twist on the player's recognition of bosses and appropriate strategy. "Hey!" players tell themselves. "A three-part boss! I should kill the hands first." This is exactly what the game has trained the player to do. In this case, this is a disastrous idea. Both hands respond to damage with powerful attacks that drain both HP and MP. After finding out the hard way that the hands are off-limits, the player will realize that Zeal's second form can and should be defeated by concentrating on the head. The designers are, once again, using players' expectations against them. Setting the deception aside, Zeal's second form is also an evolution of her first form. This form can use Hallation and

then actually follow it up with a damaging attack, and the battle is as hard as it really ought to be. (Which is to say, not that hard, because this is *Chrono Trigger*.)

LAVOS

Lavos has three forms, and getting into the particulars of each one would obscure the high-level design lessons we can learn from it. To that end, there is a list of design ideas that the three forms of Lavos employ, below.

- Debuff attacks (like the mutants, Flea, etc.)
- Attrition attacks (like Yakra, Nizbel, etc.)
- Periodic, extra-strong attacks (like Magus, Tyrano)
- Three-part boss structure (like numerous bosses)
- Sequence of battles (of bosses!)
- Triggered vulnerability
- Tech-only enemy (too much HP to use normal attacks)

That list includes almost everything that *Chrono Trigger* enemies can do. With a total of over 100,000 HP,[20] the player is going to see all of it. A good amount of credit should be given to the designers for tying most of the game's battle mechanics together in the Lavos fight. They needed to make him the most challenging enemy, yet not too challenging. They needed to make sure that all those tactics the game teaches the player are tested in one battle. They also needed to make sure (since this is the essence of the *Comedy of the Sages*) that the plot and gameplay were harmonious. Lavos is supposed to have assimilated the essence of every other creature on the planet. It follows that he should use virtually every ability or tactic seen elsewhere in the game, and for the most part he does. Obviously, this happens in the boss rush that begins the battle.

Lavos goes through phases in which he imitates the major bosses of the game in sequence. This is a little cheesy, but at least it makes sense in the plot. Lavos's "true" behavior is more or less like those of the mutants, except that he deals higher damage. Lavos's second and third forms are both three-part bosses with

triggered vulnerability. The second form requires that both arms die before the head becomes vulnerable. The third form requires that the left part dies before the right part (which is actually the primary target) can be killed.

Lavos's second form runs through a catalogue of every type of ability in the game. Shadow Slay is a light attrition attack that targets all party members. Doors of Doom is a medium-damage attack that targets all party members. Shadow Doom Blaze is a high-damage attack that targets all party members. Lavos also uses copious debuffs, including slow and confuse. He even has the power to disable debuff immunity.

Lavos's third form keeps the same kind of ability rotation as his second form, but increases the damage output. Grand Stone and Dreamless are, respectively, the most powerful physical and magical attacks made by any enemy in the game. Rather than having separate attrition and debuff attacks, the third form of Lavos combines the two into one turn. Invading Light deals medium damage and adds a slow debuff to the entire party (if they aren't immune). The only other attack of note is the left bit's ability to steal MP. It's not much, but it can be meaningful when the player goes to heal and lacks the MP to do it!

All in all, Lavos absolutely delivers on every lesson the game has taught the player. *Chrono Trigger* isn't a difficult game, and Lavos isn't an especially difficult boss. He doesn't need to be difficult. The first goal of *Chrono Trigger* is to tell a story that deceives, surprises and delights the player. As long as Lavos serves as the culmination of that story (and he does), then the fight against him is an unqualified success.

3

Strengths and Weaknesses in the Design of *Chrono Trigger*

The Problems of Audience

Chrono Trigger is a game designed for a very wide audience. In the mid 90s, Squaresoft knew that they had the talent, resources, and market position to begin making JRPGs for people who didn't ordinarily play them. As such, most of the strengths and weaknesses of the game arise out of a desire to include an audience who had varying levels of JRPG experience. The most obvious result of this design philosophy is that the game is easy. To experienced players, the game is too easy. (If the last JRPG you played before this was *Final Fantasy V* or something of that era, *Chrono Trigger* is laughably easy.) To new or casual players of JRPGs, the game is moderately difficult with most of the challenges coming at the major boss fights. There's no real case of "that one boss" or "that one level" that can't be solved by any conventional strategy. Players will see the game over screen once in a while, and that's intentional, but there's just no part of the game at which they're likely to get stuck.

The mechanical cause of this ease is the abundance of powerful, cheap dual techs. As a rule, dual techs are both more powerful than the sum of their component abilities. For example, if the player decided to cast Fire 2 and Confuse

while his characters are at level 40, the combined damage those two skills is about 1943 points. Fire Sword 2, the product of those two abilities as a dual tech, deals about 3240 damage. The same is true for single-target spells that become multi-target as a dual tech. At level 20, Marle's Ice and Frog's Water spells would deal a little over 300 points of damage, but only against one target. The product of those two spells, Ice Water, would do the exact same damage to any number of enemies on the screen, potentially netting as much as 1800 damage in a single cast for the same amount of MP total.[21]

Below is a graph detailing the average damage per MP spent for dual techs versus single techs at levels 20, 40, and 60.
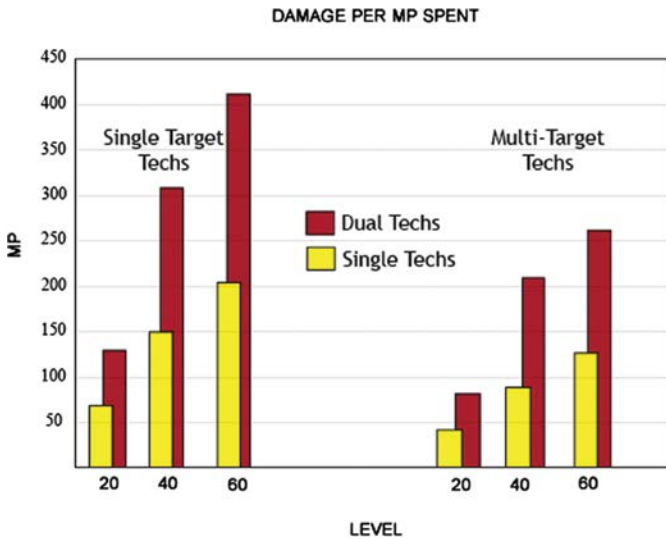
As I mentioned before, the place where the power of dual techs stops making the game easy is in the Black Omen. The enemies there have so much HP that normal attacks are almost never a viable option, and so the power of dual techs becomes necessary rather than enormously advantageous. That's only one dungeon, though, and it's the last one. The question is, what alternative did the designers have in making *Chrono Trigger* more difficult? Bosses in the *Comedy of the Sages* are a bit harder than those in the Tragedy of the Entity, but if the common enemies in the second game suddenly became significantly more difficult, the essential voice of the game would have changed. The designers wanted the second half of their game to feel *different* from the first half, but not necessarily feel much harder. That's the reason for all those exploration-style quests we see in the second game. Difficulty wasn't the primary goal.

History has shown us what the designers would have done to make *Chrono Trigger* harder. The GBA version of the game has an extra challenge dungeon,

full of especially difficult content. I contend that the design team could not do this for the original game, however. Part of the appeal of *Chrono Trigger* was that it was short, tightly-paced, and playable by a wide audience. It didn't require grinding and didn't punish the player with many game-over screens. That said, the idea of adding a completely optional dungeon makes sense in the greater context of 90s JRPGs, even if it didn't fit the original voice of *Chrono Trigger*. Many of *Chrono Trigger's* contemporaries did the same thing, even *Final Fantasy VI*.

Stopping to Get Directions

For the next section, I recommend also reading *Reverse Design: Final Fantasy VI*. That book has a much more thorough explanation of the phenomenon of NPC irony than I include here. Nevertheless, I will summarize the basic ideas before delving into the details. The next section deals with a concept called NPC irony. NPC irony is not like regular verbal irony, and understanding it as such will mislead you. NPC irony is about the designers communicating something about the gameplay to the player without breaking the narrative spell of the game. Anytime an NPC communicates something essential about the gameplay, like where a key quest objective is found, that's a form of NPC irony—provided that the NPC does it "in character." Generally, NPC irony breaks down into three categories. *Direction* is a clear message from the designer to the player about what to do in the game. *Allusion* is a puzzle or riddle that tells the player what to do, but leaves some key component out, forcing the player to figure things out on his or her own. *Condition* is a message about the interactive status of an in-game affordance. That's a bit jargon-y, but we'll come back to conditions because they're magnificently done in *Chrono Trigger*.

 Chrono Trigger's NPC irony is abundant, but not diverse. The NPCs of *Final Fantasy VI* and *Majora's Mask* speak ironic dialogue about 35% and 55% of the time, respectively. *Chrono Trigger* is somewhat close to *FFVI* at about 31% ironic dialogue, but the problem is that almost all of this ironic communication (24% of all dialogue) is in the form of direction. *Final Fantasy VI*, by contrast, had only about 13% directions and *Majora's Mask*, another complex game about time travel, had only 18%. The big difference is that *FFVI* and *Majora's Mask* both had about 17% of the total NPC dialogue come as allusions whereas *Chrono Trigger* is only about 6% allusions.

 This one-sidedness in *Chrono Trigger* is another result of a game being designed for a very wide audience. *Final Fantasy VI* might have been an attempt to make the series more popular among casual gamers, but it nevertheless retained a large number of design ideas suited to veterans of the RPG genre. One of these ideas was the quest allusion: an NPC tells the player about a quest, but leaves out part of the information. The player then has to figure out what the

final piece is, so as to uncover the start (and/or end) of that quest. Experienced players of RPGs have learned, across the course of many games, how to intuit the missing parts of quest allusions. For them, the puzzle is a brain teaser that, when solved, results in a rush of intellectual satisfaction in addition to tangible quest rewards. *Chrono Trigger*, which was aimed at the widest possible audience, largely dispensed with these.
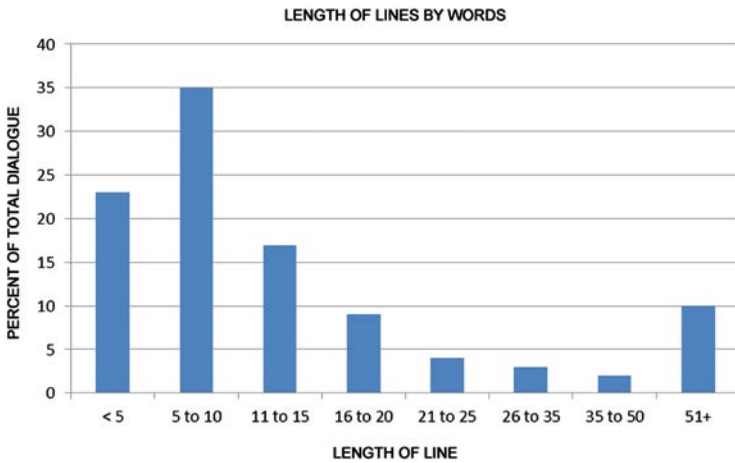
Another couple of reasons why allusions might not work for *Chrono Trigger* are the obvious inappropriateness of talking to NPCs about another era, and because of the baseline complexity of time travel. Except for a few cases, NPCs do not refer to quests and such outside their own era. Why would they, really? How would anyone, save an archaeologist or famed explorer, know enough about another to direct the player to it. A more gameplay-centric reason is that *Chrono Trigger* might be too complex for casual players if NPCs weren't obviously telling them where to go where to go. Would any player, experienced or not, want to have a game where every quest is as tricky as the Sun Stone quest? That was fun once, but it would probably get annoying if repeated too often.

Characters and Music

It is not necessary to have well-developed characters to make a great game. *Chrono Trigger's* characters are one-dimensional, but they work just fine. They start as cool, catchy, likeable stereotypes and they end that way; there isn't much development. We come to understand the underlying motivations of Frog and Lucca, but those motivations are about as one-dimensional as the characters themselves. Thankfully, the one-dimensionality of these characters is never a problem because scripted scenes are so short. The game never puts a spotlight on the characters or their motivations for very long, so it's easy to miss how paper-thin they are. This certainly spares *Chrono Trigger* the fate of many later Final Fantasy games, where the player base is divided by either a love or hatred of the main characters. There's enough of the *Chrono Trigger* characters to like, but not enough to hate. The caveat that emerges from this is that if you, as a designer, are going to create one-dimensional characters for your videogame, it is probably a good idea to be judicious about it. There's nothing worse than flat characters who have entirely too much to say.

We can actually examine and visualize the speed of the plot. If you count only the quest content of the game—starting when Crono arrives in 600 AD and you don't include the endings—the average number of words spoken by a character before they are interrupted by someone else is about 7.3.[22] The median number of words spoken for characters is five. This means that most of the dialogue is a kind of quick back-and-forth between characters, and occasionally some ripostes with enemies. The big, speaking enemies (Magus, Azala, Ozzie, Dalton) tend to speak less than nine words before someone else jumps in. There are some longer speeches because variety is necessary too,

but generally the designers knew that they had to keep the speeches short and keep the game moving. You can see a visualization of how they did this in the graphic below.[23]

LENGTH OF LINES BY WORDS

A bar chart with vertical axis labeled "PERCENT OF TOTAL DIALOGUE" ranging from 0 to 40, and horizontal axis labeled "LENGTH OF LINE" with categories: < 5 (≈23), 5 to 10 (≈35), 11 to 15 (≈17), 16 to 20 (≈9), 21 to 25 (≈4), 26 to 35 (≈3), 35 to 50 (≈2), 51+ (≈10).

(NPCs appearing in the script are different; they tend to say more words in a single pass and they exhibit a great variety of lengths. This, however, is because NPCs are usually handing out quests, which require sustained explanation. It's awfully hard to tell the player what to do in seven words.)

Chrono Trigger is light on character development, but this weakness actually complements the skills of its composer, Yasunori Mitsuda. All musicians have strengths and weaknesses. Nobuo Uematsu's greatest strength is that he is able to summarize a character and that character's development in the story through music. Many of his best themes, like Cyan's theme, Setzer's reprise, or Barret's three musical themes are incredibly biographical. For characters that experience a lot of development, this is great! The music reminds us of the whole character, but *Chrono Trigger's* characters undergo very little development, and so Yasunori Mitsuda is able to concentrate on other things. Mitsuda's gift is almost the opposite of Uematsu's: Mitsuda is very good at accurately expressing the mood of a single moment. Specifically, Mitsuda is able to fully comprehend the meaning of a moment and to delve deep into the most authentic emotion that the moment should elicit. He goes way beyond, "sad" "happy" or "frustrating" into extremely fine shades of emotion that are incredibly specific to the moment at hand. At his best, Mitsuda is able to so accurately isolate a complex emotion that it can be difficult to describe in words what he is describing in music. Fictional characters don't exist in a single moment, they go through changes. Thus, Mitsuda's skills don't perfectly suit that task. Instead, he focuses on making really great snapshots of characters *in a single moment*.

Lucca's theme is highly illustrative of this snapshot approach to character. Lucca's theme plays for the first time when she opens the first gate in 600 AD, and then revels in her accomplishment. This is clearly the most appropriate moment for that tune. We have a straight fanfare for the first four seconds, after which comes what we might call the actual "theme." That theme consists of three parts which, I think, identify Lucca's feeling at this moment, precisely. The trumpet playing the melody continues a fanfare theme: it sounds impressive, showy, and victorious. On the other end, the bassline plunks out a steady, mechanical, orderly eighth-note rhythm that grounds the tune. These are both qualities you'd expect from Lucca at a time like this: showy genius and logical composure. The best part of the tune, however, is what's sandwiched in between the bass and the melody. Listen closely and you'll hear a mid-range rock organ. The organ plays an irregular beat. The eighth and sixteenth notes are syncopated and their phrasing is irregular, relative to the rest of the tune, then they terminate in a straight triplet. It has a kind of stuttering, frenetic feeling. Between Lucca's brash achievement and her coolly logical scientific side, you can hear the nerdy giddiness that she doesn't want other people to see. But what nerd hasn't felt that way, trying to seem cool while handing out some serious knowledge?

Does this describe Lucca entirely or offer insight into her character? We know that Lucca doesn't always feel this way, and so we know that her theme is probably more suited to a moment than to a person. This speaks to the one-dimensionality of the characters, and the fact that we're not really meant to get a lot of insight into them; the meat of the game is elsewhere. A lot of the themes are that way. Marle's theme hardly makes sense for her character except in a few moments, like her reconciliation with her father. The rest of the time, she's too lively for the theme. Robo's theme is similar: it works perfectly as a "Hey, I just found a humanoid Robot and he's cool!" but hardly describes how sensitive he is. Crono's theme is the main theme; that makes sense, as he's nothing more than a player avatar. It wouldn't make sense for him to have some hidden depth.

Schala's theme doesn't really capture her character either, but it does something much more interesting. Listen to the track. It's great, but it hardly reflects her personality or her personal struggles at all. Obviously, Schala is in a position to be troubled about her kingdom and her family, but that's not what the music says. The way that the crystal synth chimes out the beat is exotic and enchanting, not troubled. You can hear the graceful sway of Schala's walk in the way the crystal strikes chords only on alternating beats. The haunting oboe line above it jumps around on fifths, and leaps an entire octave the first time through the melody. That large jump over a major chord expresses the emotion of tragic yearning. This is how the audience is supposed to feel about Schala. More importantly, this is how *Magus* feels when he remembers her. It's not how we, as the audience, are supposed to understand her experience as a character.

That's Mitsuda's gift, right there: the ability to give us glimpses into the depth of emotion like a flash of memory. It's a style perfectly suited to *Chrono Trigger*. Take, for example, the piece "At The Bottom of the Night." At its simplest, you might call it the "sad" or "melancholy" piece for the game, and it does serve that role, but Mitsuda is always more precise about his emotions than that. Rather than merely expressing sadness, this track expresses the more precise emotion of *resignation*. Listen to how it begins: not with a long, slow, mournful chord on strings or winds, but rather with a keyboard line that sounds like muttering. The echoing reverb on the keyboard creates the illusion of empty space, adding an aspect of *loneliness*. When the winds and strings come in, they do push towards a higher point of melodrama, yet there's not one but two resolving falls ending at 0:45 and 1:09. The first resolution even sneaks a D major chord into the D minor song, as though the acceptance of the sadness played in the beginning were a relief. It's not the sounds of mere despair we're hearing, but the much more specific and thematically appropriate emotion: resignation. This is why it's so fitting that this melody plays when Azala is describing Lavos's arrival and the inevitable extinction of her species: resignation is despair in the face of inevitability.

Structural Advantages

The plot of *Chrono Trigger* is compelling, but not astonishingly original. Since the early 1900s, stories about time travel have abounded all over the world. *Chrono Trigger* mostly sticks to time travel tropes and doesn't push the genre forward in any meaningful way. Nor does the game make any meaningful comment about the time-travel stories that came before it. Rather, *Chrono Trigger* deserves its excellent reputation for the structure of its story. The creative team behind the story, characters, and world of *Chrono Trigger* included four creators at the peak of their powers. Yuji Horii, creator of the *Dragon Quest* series, teamed up with Hironobu Sakaguchi, creator of *Final Fantasy* to generate the core concept and basic plot. They turned to experienced game writer Masato Kato to refine and complete the script and employed manga legend Akira Toriyama to design the characters. Given how much talent was involved from the beginning of the project, it's not surprising that the game benefits from many wise structural decisions.

What do I mean when I talk about "structure?" Structure is the way that a story is told. For example, Mary Doria Russel's classic sci-fi novel *The Sparrow*[24] tells the story of the first journey to an alien planet. Half the story takes place as a flashback, showing the buildup of the plot, and half the story takes place in the present, showing its aftermath. Because the reader experiences both the buildup to the climax, as well as the fallout from that moment at the same time, his or her curiosity is in a state of continuous pique. Patrick Rothfuss's *The Name of the Wind*[25], also known as *The Kingkiller Chronicles: Day One*, and Christopher Nolan's movie *Memento* (2000) follow a similar structure, although those stories lean far more

on flashback than they do on present action. Or, to give an example of a completely different structure, we can look at the television show *Lost* (2004–2010). That show is delivered in 60-minute episodes. Each episode focuses on one character, telling the story of how they came to the mysterious island where the story takes place and how that journey informs their current struggle. Those episodes gradually add up to a larger (and admittedly jumbled) story about what has been happening on that island for hundreds of years.

Like most RPGs, the story of *Chrono Trigger* is delivered in the format of quests. The player is given small objectives, and he or she must overcome various obstacles to reach those objectives. Somewhere during that process, a larger story (or "main quest") unfolds. It may not seem so at first, but there's a lot of creative latitude embedded in the quest structure. The designer can tell a story when he or she gives the player an objective at the beginning of a quest. The designer can reward a player with story after reaching that objective. And skilled designers can also tell a lot of that story during the middle of a quest. *Chrono Trigger* tends to deliver most of its story at the beginning and end of quests, but this isn't always the case. In quest three, which takes place mostly in Arris Dome, the player discovers a lot of information in the middle of the quest.

In fact, the main quest of the game is delivered here, in the middle of a quest. In quest ten, in the Kingdom of Zeal, the player gets *no* information at the beginning and very little at the end. Almost all of the story is told by NPCs in the middle of the quest. It speaks to the confidence of the designers that they expected the player to stop and find that story without being forced to do so.

The real genius of *Chrono Trigger's* structure is in the way that the quests are sequenced and in the way that sequence manipulates the player's sense of the passage of time. The first nine quests of the game are incredibly lean and efficient in the way they move the plot forward. What's more, most quests accomplish multiple storytelling goals (Table 3.1).

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Table 3.1 Quest Goals

Quest	Goal 1	Goal 2
Save Queen Leene	Introduce Time Travel	Introduce Frog
The Trial	Give the party a reason to flee through time	Develop Marle's character
Arris Dome/Info Center	Introduce Lavos	Introduce the future, set the stakes for the main quest
Factory	Introduce Robo	
Heckran Cave	Give a red herring origin story for Lavos	Introduce Magus, the mystics, and reveal Melchior's house
Zenan Bridge/Denadoro	Introduce the Masamune	Give background on the war with the mystics, introduce Ozzie
The Reptite Lair	Introduce Ayla and dreamstone	Introduce Azala
Magus's Castle	Reveal the truth about Lavos and Magus	Establish Frog's backstory
Tyrano Lair	Reveal Lavos's real origin	Complete the Ayla/Azala character arc

In terms of pure efficiency, the designers could hardly have done better than this. Another thing to notice here is that the game doesn't get bogged down in a single time-period for too long. Many players of *Final Fantasy VII*, who otherwise enjoyed the game, complained about the transition between the first and second acts. The first six quests (act one) in Midgar are tightly paced and take place in one consistent setting that many players grew attached to. Those players found it jarring when the second act slowed down and switched over to lots of world exploration. *Chrono Trigger* avoids this problem deftly, by jumping around in time. Most time periods only have two quests. There is one period with three quests (600 AD), but those quests are spread out across the first half of the game. One period has back-to-back quests (2300 AD), but it's so empty and bleak that most players don't become attached to it. The sequence of quests keeps the player moving toward the next goal at all times, while also accomplishing all of the other storytelling goals necessary for a good plot.

Warping the Sense of Time

In addition to keeping the game fresh by jumping through time, the designers also use that movement to warp the player's perception of the *passage* of time. The first quests of *Chrono Trigger* suggest that time moves evenly behind each gate, but as the player gets deeper into the game, this relationship begins to break down—even if the player doesn't notice it. The first time the player returns to the present (quest two), it seems that a day or two might have passed. This seems

more or less equivalent to the amount of time that passed in 600 AD as well. Then, three days (maximum) pass during Crono's imprisonment. For the next few quests in 2300 AD, there's no exact way to gauge how much time is passing, but we can make some educated guesses. Presumably, the journey through the future takes two to three days. The party doesn't stay in Arris dome for the night because there are Enertons. The journey across the world map from Trann Dome to Proto Dome might theoretically take any amount of time. It's a big map and there are several intervening dungeons, but if we're accepting an implied sense of the passing of time, then we have to accept that the journey takes less than three days. After all, there's no food, so unless the party brought food with them, they need to get back to the present pretty quickly. Thus, we have to assume three days maximum (Table 3.2).

Table 3.2 Passage of Time in Early Quests

Quest	Time	Running Total
The Trial	1–3 days	1–3
Info Center/Factory	1–3 days	2–6 days
Heckran Cave	1 day	3–7 Days

After that, the quest to get through the Heckran cave probably takes one day, and then the party is back in 600 AD, helping to lift the siege of Zenan bridge. If we're counting, roughly seven days have passed since Crono and his party left 600AD the first time. Yet, in that time, Zenan Bridge has been entirely rebuilt. The armies of Guardia and Magus have clashed on the bridge. The King has been wounded and evacuated. The troops remaining at the bridge have been encamped there long enough that they've run out of supplies. It seems like a bit of a stretch for all of that to happen in just a few days, but most players don't notice the discrepancy because once it is established that every timeline is always moving, the player will accept this storytelling convenience at face value.

The uneven passage of time becomes a major factor again just after Magus's Castle. After the battle with Magus, the party wakes up back in Prehistory. Since they left, the war with Azala has escalated. Together with Ayla, the party fights their way through the Tyrano Lair, defeats Azala, and finds out the true origin of Lavos. This victory marks the climax and end of Ayla's character arc. There are two problems with the chronology here, though. First, much like the situation at Zenan Bridge a few quests earlier, the war with Azala seems to have ramped up unusually quickly. The quest that takes the party through Magus's Castle only lasts two chronological days (including one overnight stay in Frog's hovel). When the party returns to Prehistory, more time seems to have passed than that. Secondly, Ayla's character arc is only two quests long. The party meets her in quest seven, then sees the climax of her arc in quest nine. Why do we accept such a short character arc? Ayla is a simple character, but all the *Chrono Trigger* characters

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fairly one-dimensional. Most of them still have more substantial arc, or at least one that takes longer to develop than two quests.

There are three reasons why *Chrono Trigger* can get away with its treatment of time. Firstly, the designers use the passage of time in a shrewd way. The Zenan Bridge timeline doesn't add up, but the designers know that the player isn't going to notice that fact because of all the other storylines that have been introduced since then. Secondly, the designers know that the player's sense of time is skewed by gameplay considerations like the length and difficulty of dungeons. Magus's Castle is, by far, the longest dungeon up to that point in the game. It's also relatively difficult, at least in the context of *Chrono Trigger*. Thus, when the player arrives back in Prehistory after fighting Magus, it feels like a long time has passed, even though it's really two chronological days. Thirdly, the jumps which are the most chronologically inappropriate are the most thematically appropriate. The player ought to be struck by the fact that quests seven through nine introduce and resolve Ayla's character arc and the Prehistory story arc in an unusually hurried way. They probably don't, however, because quest eight and quest nine are thematically linked: they both reveal some new twist in the origin story of Lavos. The unfolding of the story makes sense thematically, so the player overlooks the fact that it's uneven, chronologically.

The Chain of Climaxes

The final noteworthy structural advantage in *Chrono Trigger* is the many separate story arcs that can juggle and bring to completion. Although there is one overarching plot, the goal of which is to defeat Lavos, there are also many smaller plotlines as well. Each time-period has a storyline, although not all of them have a full arc. The first time-period arc, that of 600 AD, begins in the first quest. That arc reaches its climax in quest eight in the battle at Magus's Castle. Another plotline begins in 65 Million BC, during quest seven. That plotline resolves in quest nine when Lavos falls onto the Tyrano Lair. The final time-period arc is in 12,000 BC, which begins in quest ten and ends in quest twelve. Quests two and three introduce storylines for 1000 AD and 2300 AD, but there isn't really a climax and resolution for those timelines because very little change occurs in them.

In addition to the time-period arcs, each of the mandatory characters has a personal arc as well. A couple of these arcs are resolved during the Tragedy of the Entity. Ayla's character arc, as we've already discussed, is very short and ends in quest nine, at the same time as the Prehistory arc. Crono's highly idiosyncratic arc ends in quest twelve, at the same time as the Kingdom of Zeal arc. Aside from these two, the character arcs mostly end in the *Comedy of the Sages*. The climax of Lucca's character arc takes place in the mysterious gate in Fiona's Forest. The climax of Robo's arc happens in the Geno Dome. Marle's arc ends at the trial of her father during the Rainbow Shell quest. Frog's arc reaches its emotional climax in his conversation with Cyrus in the Northern Ruins. Indeed, the second half of *Chrono Trigger* is mostly dedicated to character development. This combination of

non-linear gameplay and character-oriented stories is something that Squaresoft tried in *Final Fantasy VI*, to great effect. In that game, however, several characters don't get a complete arc and some characters get multiple quests to complete theirs. By giving every mandatory character in *Chrono Trigger* an arc and by reducing the number of total characters, the designers were able to make their game dense with climactic moments.

The density of climactic moments is one of *Chrono Trigger's* great achievements. The problem with games as lean as *Chrono Trigger* is that they can feel underwhelming when executed poorly. If there aren't many quests and half of them are boring interludes between story beats, a player can get through a game feeling like nothing happened. *Chrono Trigger* doesn't have that problem. If anything, *Chrono Trigger* almost has too many high points. Below, I have visualized all the time-period and character arc climaxes in the game, on a quest-by-quest basis.
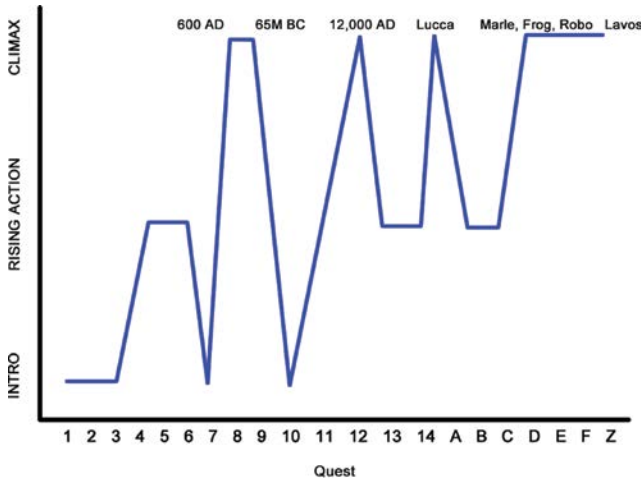
This visualization is figurative; I'm not going to pretend there's an objective measure for dramatic tension, but it does illustrate how the multiple storylines (of time periods and character arcs) allows almost every quest to keep the player's interest at a high level. I think it's also clear how hard it would be for another game to imitate this level of density. *Chrono Trigger* has flaws and this book has addressed them—but as far as story and quest structure goes, it's hard to imagine a game coming closer to perfection than this one does.

4

Patterns of Evolution and Expansion in *Chrono Trigger*

The central principle of videogame design is that games should slowly get more difficult as the player gets deeper into them. The difficulty should also not rise uniformly, but should ebb and flow a little bit on its way up. This principle is called *Nishikado Motion*, after Tomohiro Nishikado, who first demonstrated the concept in *Space Invaders*. (You can read about this concept in more detail in the *Reverse Designs* of *Super Mario World, Half-Life*, and *Diablo II*.) Because RPGs preceded videogames as we know them today, they don't always operate by Nishikado motion. Mainstream console RPGs like *Chrono Trigger* usually do, however. In this section, I'm going to look at how *Chrono Trigger* implements many of the core principles of videogame design in its systems, especially in enemy design.

   The gradual development of non-boss enemies (commonly called mobs) in *Chrono Trigger* is generally uninteresting; most of the interesting design ideas appear in the boss fights. As stated earlier in this book, enemies break down into two groups: enemies that can be defeated by basic physical attacks and enemies that must be defeated by tech attacks. There are three methods that the designers use to make this distinction. The first method is the simplest: many enemies have physical defense stats so high that using basic attacks against them is either impossible or very inefficient, and thus tech/magic attacks are clearly a superior

choice. Roughly one-third of all mobs fall into this category, and most of those enemies appear in the *Tragedy of the Entity*. The point of these enemies is to force players into using their tech attacks so that they learn what those tech attacks do and how they function on the battlefield. Sometimes the designers do something a little more interesting, in that certain enemies can have their physical defense reduced by the right spell. This phenomenon, called triggered vulnerability, is one we've examined throughout this book. We'll circle back to it a little bit later in this chapter, when we get to boss design. The second way that the designers create enemies that must be fought using tech attacks is by simply raising the monster's HP so high that standard attacks aren't an efficient use of player-character turns. This is widely considered the most boring and odious form of difficulty, but in limited use, it has its place in RPG design. *Chrono Trigger* has enemies with more HP than basic attacks can defeat conveniently, but these are generally confined to two dungeons, Giant's Claw and the Black Omen. Moreover, because these quests come at the end of the game, the increased difficulty is in line with RPG orthodoxy.

The third method of forcing the player to defeat enemies with tech attacks is a little more interesting. Sometimes, the player needs to defeat monsters with techs not because the monster has high stats or HP, but because of the context of that enemy in a battle. Usually, this means that there are so many enemies in a battle that the player must use techs to eliminate some of them before his or her party is depleted by a barrage of enemy attacks.
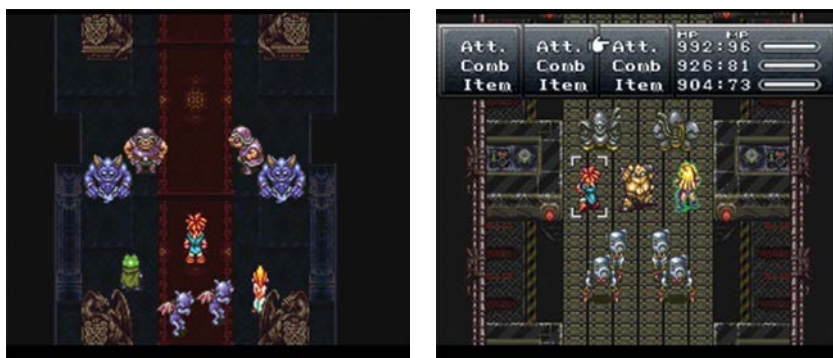
This kind of battle appears in the Factory Ruins, Magus's Castle, the Ocean Palace, the Geno Dome, and the Black Omen. We can tell that the designers wanted the player to exploit multi-target techs in these battles because monsters in those battles often have unusually low magic defenses, elemental weaknesses to exploit, or both. For example, the enemies in the Factory have a weakness to shadow damage, which is the exact kind that Robo and Crono deal with their multi-target dual tech. Similarly, the large groups of enemies in the Geno Dome are weak to Lightning techs, which the party has in abundance (thanks

to Crono) later in the game. Two of the higher-HP enemies in the gauntlets in Magus's Castle, meanwhile, have magic defense stats 40% below the median and are also weak to elemental damage. That low defense makes it seem like player is doing far more damage to them than should ordinarily be possible. That is a psychological trick that the designers use on the player to make him or her feel more powerful.

Evolution Across the Course of the Game

Mobs in *Chrono Trigger* see very little increase in complexity across the course of the game. Although there are two types of enemies (and the subtype of enemies with triggered vulnerability), that division is mostly the same at the end of the game as it was at the beginning. Some enemies must be defeated by tech attacks. The percentage of enemies that must be defeated by tech attacks (per quest) rises moderately in the *Comedy of the Sages*, although the majority of those gains are in just one dungeon, the Black Omen. Enemies also gradually start to inflict more debuffs across the course of the game. This is also mostly limited to the final dungeon. What's more, the number of debuffs used by mobs is quite low relative to other RPGs of the 90s, and is not a major factor in non-boss battles at any point in the game. Similarly, the prevalence of elemental resistance rises slightly across the course of the game. Roughly one in seven enemies has an elemental resistance in the Tragedy, while roughly one in three has an elemental resistance in the Comedy. That rise seems more significant than it actually is. More than half the resistances acquired in the Tragedy are to the shadow element. Shadow elemental attacks are the least common type available to the player, and both characters who use them (Magus and Robo) can use other elements as well.

Evolution in Boss Fights

Boss fights, by contrast, see a much more significant increase in complexity across the course of the game. Boss fights also come in several different varieties, which we'll examine first because those types combine as part of the evolutionary process.

Attrition/Spike: This boss behavior consists of a series of small attacks that deal damage equal to about 15% of a character's max HP, followed periodically (every three rounds or so) by one larger "spike" attack that deals damage equal to about 25%–40% of a character's max HP. This spike can hit one character or multiple characters, but multi-target spikes are usually on the lower end of the damage range. Yakra, Zombor, MasaMune, Nizbel, Slash, Dalton, the Golems, and the Lavos Spawn all use this behavior type.

Three Parts: This isn't a behavior as much as it is a boss structure. Players should take the presence of three parts in a boss as a signal to identify and destroy one of those parts first. Three-part bosses include the Dragon

Tank, Guardian, Giga Gaia, Retinite, Zeal's second form, and the last two forms of Lavos.

Wipeout Attack: Bosses with this attribute will use an attack that deals damage equal to more than 50% of all characters' max HP, assuming they are of an appropriate level for that boss. Bosses that use these attacks include Magus, the Black Tyrano, Rust Tyrano, Queen Zeal, and all forms of Lavos.

Triggered Vulnerability: I've defined this before, but triggered vulnerability is a weakness that must be activated by a specific technique. Sometimes, a vulnerability is triggered by a spell that the player can cast. Sometimes, it's triggered by killing one part of the boss. Bosses with triggered vulnerability include both forms of Nizbel, Magus, and the final form of Lavos.

Early in *Chrono Trigger*, different bosses exhibit these ideas individually, then we start to see those ideas mixed together. Additionally, each one of these ideas sees some individual iteration. For example, let's look at the first boss behavior, the attrition/spike pattern. Yakra demonstrates this pattern in the first boss battle and in a totally straightforward way. Much later in the game, Zombor uses the same behavior, but that fight is slightly more complex because the halves of his body possess two different elemental resistances. Not long after that, MasaMune uses the same behavior again, but has an attack that causes the confuse debuff. We can think of both of these later bosses as being evolved forms of Yakra.

There will be more evolutions that rise to greater levels of complexity, but to understand them we have to look at other boss behavior patterns.

Triggered vulnerability arrives relatively late in the game for how prevalent it is, and it starts as an important attribute outside of boss fights. The Ogans of Denadoro must be stripped of their hammers (and defense) by a fire attack. The Megasaurs of the Reptite Lair must have their defense removed by a lightning spell. In both cases, the enemy stays vulnerable for the rest of the battle. This evolves in the fight with Nizbel, who periodically regains his defense by releasing

energy. This periodic release of energy also gives Nizbel a second behavior pattern. In addition to having triggered vulnerability, he attacks in the manner of an attrition/spike boss.
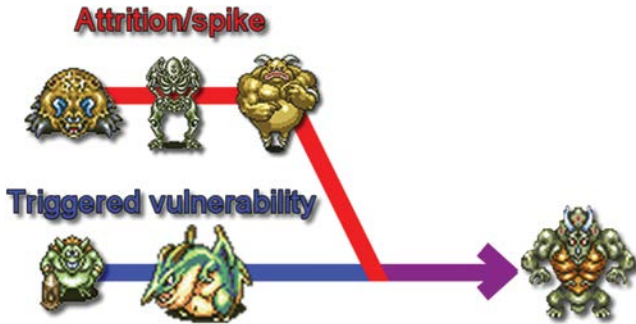
This is the same *kind* of combination we saw in Zombor, in which a boss with a known behavior pattern gains a new attribute. Unlike elemental resistance, however, triggered vulnerability reappears often and receives its own development. For example, Nizbel II has the same vulnerability that the original Nizbel has, except that his defense returns every time he is struck. That increase in frequency is a topic we'll get back to at the end of this section.

Like triggered vulnerability, the three-part boss idea sees a lot of iteration across the course of the game. In a three-part boss, there is always one "main" part that has the majority of the HP, and the player must defeat that part to win the battle. The key difference between bosses is what the "auxiliary" parts of the boss do and how the player has to respond to them. The first three-part boss is the Dragon Tank; its auxiliary parts heal and do damage. It's basically impossible to defeat the boss without killing the healing part first, but trying to target the other parts doesn't have a deadly result. The second three-part boss is the Guardian. Attacking the main body without defeating the auxiliary parts first will result in a high-damage counterattack to all party members. This addition of a penalty for failing to play the right way is a classic method of increasing the complexity of any kind of videogame challenge. After the Guardian, the three-part boss comes back in Giga Gaia. As before, attacking the main body will cause a significant counterattack from the auxiliary parts. This time, the auxiliary parts will also attack the entire party of their own initiative—in *addition* to counterattacking. That's a significant increase in damage, whether the player mistakenly attacks the main body or not.

The last important, repeating behavior to appear in bosses is the wipeout attack. A wipeout attack deals damage equal to or greater than about 50% of a character's HP and targets the player's whole party. The first character to use one of these is Magus, who casts the spell Dark Matter. Dark Matter sets a trend for the next couple of wipeout attacks in that the game telegraphs its arrival.

There is only one real evolution in wipeout attacks. Later wipeout attacks like Zeal's Hallation and Son of Sun's Flare aren't telegraphed by the UI. Like earlier wipeout attacks, they cannot be cast on consecutive turns.

We've already seen how some of the earlier bosses mix these attributes, but the trend of mixing continues and eventually culminates in one all-encompassing boss fight at the end of the game. After Giga Gaia, the attrition/spike, three-part structure, and triggered vulnerability all come together in the Retinite.
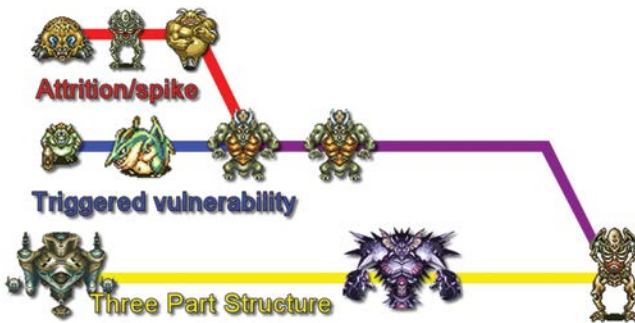
In addition to having three parts that have different functions and an attrition/spike behavior pattern, the Retinite can only be hit for significant damage after it has been hit by a water spell. In fact, its defense and HP together are so high that that one character must be casting water spells virtually every round. Meanwhile, Queen Zeal's second form combines the three-part structure with wipeout attacks. Then, all of the major boss design ideas come together in the final form of Lavos. Lavos has wipeout attacks, three parts, attrition/spike attacks, and triggered vulnerability.
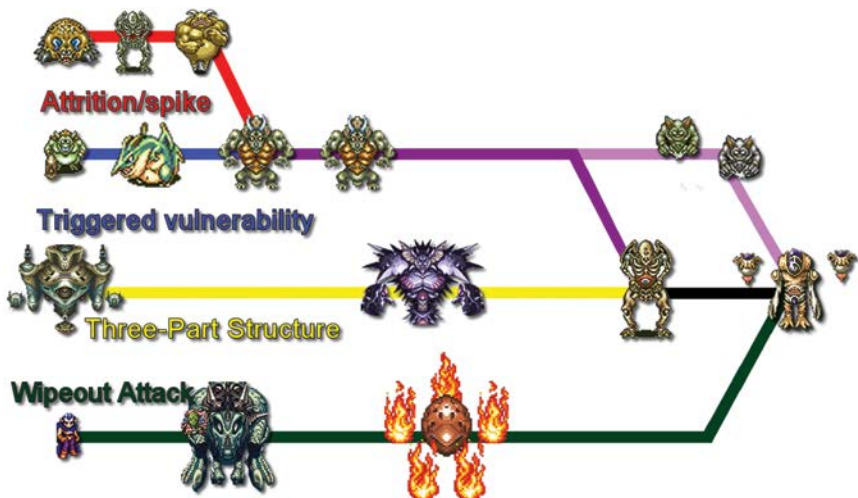
You'll notice in this diagram the appearance of a common enemy along the triggered vulnerability line. This is the Jinn/Barghest enemy from the Ocean Palace. I put it in Lavos's lineage because it is the only other example of the kind of triggered vulnerability that the Lavos Core has. Like many other enemies, the Jinn has extremely high damage resistance until its vulnerability is triggered. Unlike other enemies, the trigger is not done to the Jinn itself but rather to its companion, the Barghest. Once that second enemy is destroyed, the Jinn becomes vulnerable. In the Lavos Core battle, the "Active Life" has high defense until the left-hand part of the creature is defeated. Then, the defense drops.

Unlike the Barghest, the Lavos core will regenerate its external shield. Regenerating parts is a common attribute of three-part bosses, but here that attribute synergizes elegantly with the triggered vulnerability property.

Overall, the pattern of boss development in *Chrono Trigger* is very similar to the kind of development that appears in traditional console action games like *Super Mario World*. In *Reverse Design: Super Mario World*, I lay out the general plan of an action game, and how its challenges become more complex from beginning to end. Most action games begin with a period of *iteration*, in which the designers introduce the majority of the game's mechanics. Then, most games enter a period of *accumulation*, in which the designers combine those mechanics. The changeover isn't stark; the process of accumulation sometimes begins a little before every mechanic has been introduced. Nevertheless, the way that *Chrono Trigger's* later bosses gradually combine each of the individual boss attributes is a perfect demonstration of how the process of accumulation works.

Chrono Trigger in the Language of CCST Analysis

Action games also tend to see granular increases in complexity within a single mechanic. *Chrono Trigger* is not as granular as *Super Mario World*, but the two games definitely have some iterative practices in common. In *Reverse Design: Super Mario World*, I laid out definitions for qualitative "evolutions" and quantitative "expansions" in the "challenge, cadence, skill theme (CCST)" framework. Originally, these types of changes were applied to jumps in a platformer level. In *Chrono Trigger*, those same changes appear in boss mechanics and a few times in normal monsters (like the Jinn/Barghest). Most the evolutions take the form of the combinations we just examined above. In the language of CCST analysis, any first-time combination of two elements is an evolution. Bosses also have quite a few quantitative developments. For example, the change between Nizbel I and Nizbel II is a classic expansion: both monsters have vulnerability that is triggered by a lightning attack, but the window of time in which Nizbel II is vulnerable is much shorter. Nizbel is vulnerable for six to nine player turns after a lightning attack, but a couple of turns will restore Nizbel II to full defense. This window is even shorter in the Retinite, who regains lots of defense after every strike and has a lot of HP, requiring one character to constantly be casting water magic against him.

Why don't normal monsters see more of this kind of iteration? Given how elegantly the designers were able to make boss mechanics come together for the fight against Lavos, it certainly seems like they could have given mobs more of those complex behaviors too. My best guess is that mobs did have more complex attributes, but that those attributes were stripped away in the final version of the game. *Chrono Trigger* was aimed at the widest possible audience, but original builds of the game were famously too difficult. I suspect that during the final balance pass, normal monsters were simplified greatly. Bosses were probably softened as well, but I suspect that the designers kept most of those interesting attributes to preserve the climactic feeling in those fights. As we've seen throughout this book, that climactic feeling is a very important part of the pacing, and the excellent pacing of the game is a big part of what makes this game so special.

5

Conclusion

The goal of this *Reverse Design* is to show that the design of *Chrono Trigger* is so intertwined with the story it tells that to understand either, one must understand both. *Chrono Trigger* is basically two different games that offer two different outlooks on the question of inevitability. The two halves of the game we call *Chrono Trigger* are different not just in terms of story, but also in terms of gameplay. One is linear, authorial, and plot-driven. The other is open-ended, flexible, and character-oriented. The true artistry of the game is that it's so sly about accomplishing all this that players often don't realize what's just happened. They know they've played a great game, and they know it's a unique and remarkable game, but it was such a smooth experience that they can't always point out why. We hope that we've made it clear why and how all this was created by the designers. Now, a few tips for designers from the best ideas in *Chrono Trigger*.

1. Everything in your game can communicate the thematic basis of your story. *Chrono Trigger* uses quest pacing, combat design, the distribution of art assets, and even the way the ability menu interface looks to subvert player expectations. When players are constantly forced to re-evaluate

what they thought was going to happen, it makes for a great foundation for exploring the theme of inevitability.

2. Consider using long but moderately easy boss fights for climactic encounters, rather than hard bosses. Really hard bosses take so much energy that the player often can't respond emotionally to whatever comes next, which could disrupt the flow you're trying to create. Be careful where you place your big challenges!

3. Try an amplitude graph for a way to gauge the pacing of your game or the game you want to analyze. The dimensions of the graph need to be contrasting, but they can be a huge variety of things. Action versus platforming in a Mario game, stealth sections versus set pieces in a military shooter, exploration versus puzzle content in a dungeon crawler, etc. This is a great way to understand how other games achieve the balance you like and if your game can emulate (or differ from) that effect.

4. Mix up your sections. Whether they're quests, levels, zones, or whatever else marks divisions in your game, make sure they're not all the same. Consider how well *Chrono Trigger's* second half works, even though it defies convention. Convention says that the second half of a JRPG (and many other genres, too) should be long, dense sections of the most challenging content. *Chrono Trigger* does this, but only some of the time. The Sunken Desert is dense and challenging, but not long. The full Rainbow Shell quest is long, but hardly dense. The Son of Sun is just a boss and a puzzle! Variety is the spice of videogames, and it forces designers to think critically rather than just reuse the same old set-piece content.

5. You don't need great characters in your game, if you don't overexpose them. *Chrono Trigger's* cast of stereotypes serves perfectly well in the game. A lot of this has to do with the fact that they don't talk too much. The game's most emotional moment works almost universally because the player can feel the relief the characters do because of the gameplay, not because of characterization. Even many great novelists can't make a compelling character every time they try. Thankfully, videogames have a fallback position if they encounter that problem.

6. Before writing a game's script, spend time on examining the structure of the story. Figure out *how* the game is going to communicate the plot to the player. Remember to take into account the natural structure of the game in question, whether it's quests in an RPG, levels in a shooter, or any other natural structure. In any given game genre, certain design elements are inevitable, but some good planning can not only accommodate those elements, but even use them to great advantage.

7. Try to include clear patterns of evolution and expansion in your game's content—even if only in one area, like boss fights. The iterative pattern of evolutions and expansions exists in all kinds of mainstream videogames because it does a great job of slowly introducing players to new game mechanics and helping them to improve in their use.

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