



Nazca Lines in *The Legend of Zelda: Tears of the Kingdom* – a game design and historical perspective

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In *The Legend of Zelda: Tears of the Kingdom* (Nintendo, 2023), the player can go on a quest to find and decipher numerous geoglyphs. In this study, we will discuss why these lines make their appearance in this game's design by comparing it to the previous entry, *Breath of the Wild* (Nintendo, 2017). We will also try to answer the question "Are the game's geoglyphs truly geoglyphs?". We will find out that from a game design perspective, the lines correct the main problem of the memory quest from *Breath of the Wild*, by making memories (named as "tears" in *Tears of the Kingdom*) more visible. I will also conclude that these lines are only slightly related to geoglyphs as the archaeological concept in terms of use, making and purpose, answering a certain definition.

This study contains no spoilers of *Tears of the Kingdom's* story, apart from the specific side-quest that leads to this geoglyph search.

A POINTER ON NAZCA LINES

Geoglyphs are one of the most intriguing mysteries of all the time. If we apply the strict definition from the Greek, 'geoglyph' means literally 'engraved work, chasing on soil' (Valenzuela & Clarkson, 2014). The word 'geoglyph' was first used in 1949 by the Venezuelan archaeologist Josep Maria

Cruxent and was further defined by Grete Mostny some years later (Valenzuela & Clarkson, 2014). This broad definition encompasses all type of glyphs, including recent creation by "land art". The most popular on that domain was Robert Smithson, a 20th century artist well known for his 'spiral jetty', immortalized in *Breath of the Wild* close to Akkala Highlands on the Rist Peninsula ("rawmeatcowboy", 2017). However, these cryptic line-shaped animals (Fig. 1), characters or other representations, obey a more precise definition in terms of purpose, as argued by Valenzuela & Clarkson in their 2014 study (Valenzuela & Clarkson, 2014).

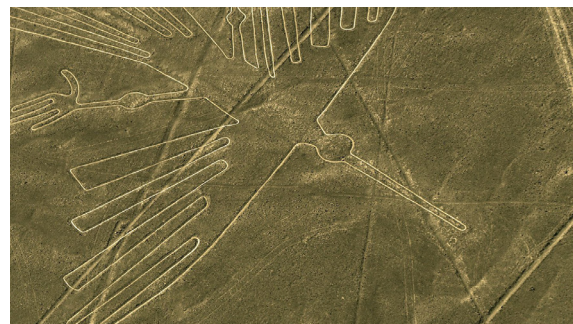


Figure 1. Condor-shaped geoglyph, one of the most well-known geoglyphs found in Peru. Source: Wikimedia Commons (Robert Canals).

Their definition is interesting in three ways, as they mentioned presence of geoglyphs "all around the world" which have "independent origins and development in

time and space". If we focus our analysis on Nazca's figures made between 150 BCE and 600 CE (ISSY TV, 2020), it is really important to know that geoglyphs can be found everywhere else. Famously, some are depicted in India (Valenzuela & Clarkson, 2014; Lambers, 2020; Oetheimer & Oetheimer, 2021), United States, and United Kingdom, as the Cerne Abbas Giant found in Scotland and immortalized in the game *Pokémon Sword/Shield* (Game Freak, 2019) (Hoffer, 2019). Nazca's geoglyphs are found in a region of coastal Peru called Chala, 400 km south of Lima in a desert region of the Ica department, but some of the figures have been lost definitively because of various reasons, such as urbanization. Those geoglyphs were made by removing or clearing sand and stones (or sometimes adding stones), which creates contrast between the figure and the ground and thus, enhances visibility (Valenzuela & Clarkson, 2014). Their creation is accomplished by using ropes and sticks, allowing Nazcans to build a larger version of a prototypical figure. That is why some geoglyphs are made in a gigantic proportion with ease.

The purpose of the visibility of these figures is still a subject of discussion in the archaeological community, as it seems that each of them had a different purpose. But earlier hypotheses made in the 1930s by Peruvian archaeologist Toribio Mejía Xesspe are not so fantasist (ISSY TV, 2020). He mentioned their specific orientations to mountains, aqueducts and also cemeteries. Some of them had entrances and exits where people came to these figures for making ceremonies and rituals dedicated to the gods. Other geoglyphs connected two major settlements, and those traced on the mountain slopes functioned as signposts visible to pedestrians and those crossing the desert (ISSY TV, 2020). The layout of a geoglyph could also have been used for political purposes, to mark a territory and its politico-religious appropriation. The larger they are, the more powerful you are. Some set of geoglyphs could even be related. No matter the purpose, their orientation seems to be the most important thing.

Very well-known for their gigantic spider, bird shaped figure, and other represented animals, Nazca's geoglyphs are more varied than they seemed at their first discovery. Some are huge, reaching hundreds of meters, while others are only 10 m long (Bacha, 2012; Valenzuela & Clarkson, 2014; Erreca, 2018). The first mention of a geoglyph was by the chronicler Pedro Cieza de León in 1552. But we had to wait until the 1930s to discover the entire complexity of the lines, from the ground up to seeing them from the sky. An interest personified by Maria Reiche who spent all her life studying and protecting geoglyphs (Bach, 2012).

Today, new AI/drone-based technologies allow archaeologists to find more geoglyphs, notably covered by dust and other desert elements. In December 2022 (Sakai et al., 2023), a consortium of Peruvian and Japanese archaeologists (Yamagata University, 2022) found a whopping 168 new lines depicting animals for the most part. In June 2023 (Richter et al., 2021), four new geoglyphs were found by the same team using a deep learning method. These small figures could have a different purpose than the larger ones previously presented.

GEOGLYPHS IN VIDEO GAMES

Video games that reference geoglyphs directly are very rare. Some of them reference them in the background, as *Pokémon Sword/Shield* previously mentioned. One of the notorious examples is *Illusion of Gaia* (or *Illusion of Time* in PAL territories), an action-RPG (role playing game) made in 1994 by Quintet for the Super NES. In the game, you discovered several mythical locations (Mu, Angkor Vat, Babel Tower, etc.) and one of them is a Nazca Line, much more precisely, a condor-shaped one in the 'Inca country' named 'Nazca painting' (Fig. 2). The characters of the game are wondering how such lines could have been drawn. Kara, a protagonist, even wonders if the Incas organized sports events using them. A little later, Erik, the main protagonist, wonders if

he hadn't already seen that shape, which for him is more reminiscent of a swan than a condor, to which Neil replies that what they perceived as a swan was probably a condor for the Incas. Thanks to this reflection, one of the members of the group deduces that the location of the stones present in the geoglyph matched the location of the stars in the constellation of the Swan (Cygnus), which, once the enigma had been solved, gave them access to another mystical location, the 'Celestial Garden'.



Figure 2. Erik and his friends discuss in the middle of the Geoglyph in *Illusion of Gaia* [a.k.a. *Illusion of Time*] (Quintet, 1994). Screen capture from the game.

The second game is also an RPG, from Owerworks (2000) for the Dreamcast, *Skies of Arcadia*. This game is also an ode to world discovery and is thus littered with discoveries. One of them is called 'The Great Bird'

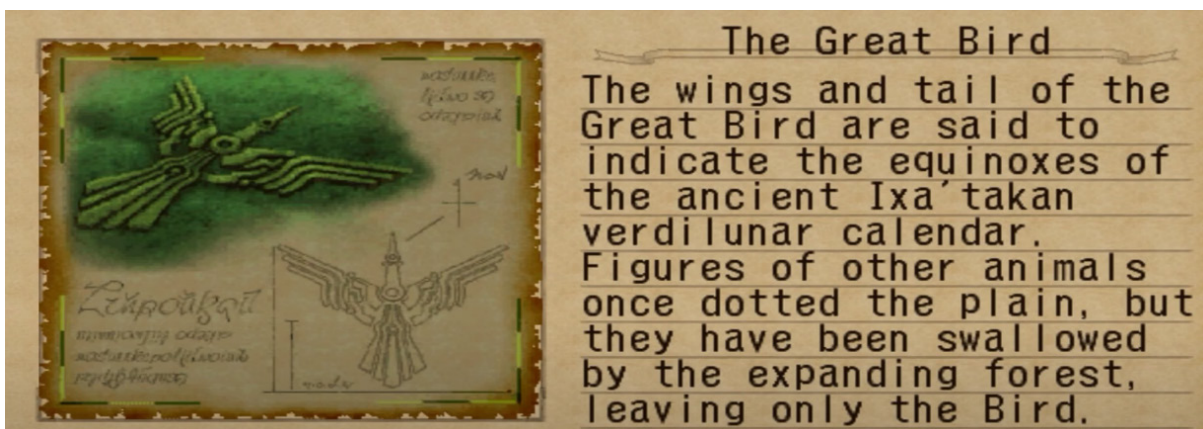


Figure 3. Description of 'The Great Bird' in *Skies of Arcadia* (Overworks, 2000). Screen capture from the game.

(Fig. 3) and it is also a representation of the Nazca geoglyphs, found in the province of Ixa'Taka, which is based on the representation of Mesoamerican peoples. The description of the Great Bird tells us several things. Firstly, there is the hypothesis that the animal geoglyph functioned as a calendar, its wings and tail indicating the equinoxes. That hypothesis seems to be incorrect for real geoglyphs, according to a 2021 study (Richter et al., 2021). And secondly, we learn that the figure of the bird was not the only one, but that the others were swallowed up by the expansion of the forest, which did not allow them to be preserved - contrary to Nazca's geoglyphs that were made in arid regions, far from the forest, and were thus more easily preserved.

GEOGLYPHS IN *TEARS OF THE KINGDOM*

In *Tears of the Kingdom*, the country of Hyrule has been covered chockfull with geoglyphs. These geoglyphs have a certain importance to the story as they tell (in the order where the player discovers them) what happened between Link and Zelda at Hyrule Castle's depths and his awakening at the beginning of the game. To find these short pieces of storytelling, the player needs to find a drop of water hidden inside the geoglyph, which represents in itself a dragon's tear; there are eleven in total to collect, plus an extra one.



Figure 4. Based on the “critical path”, the first geoglyph you will discover is Rauru’s Geoglyph. A difference of colors in that figure indicates the presence of the tear. Screen capture from the game.

Normally, the first place you see a geoglyph (if you follow the “critical path” of the game) is close to Sallari Hill on Central Hyrule where the player encounters Impa for the first time. She used to be the ruler of Kakariko village in *Breath of the Wild* (*Breath of the Wild* and *Tears of the Kingdom* take place in the same world with the same landmarks and several returning characters). Impa is now in the pursuit of all these lines that appeared in the kingdom. The first time you meet her, you need to repair her hot-air balloon by using the power ‘ultrahand’, fully exclusive to *Tears of the Kingdom*. After that, she let you ride the balloon with her and you fly over the geoglyph that represents Rauru (Fig. 4), one of the most important characters in the backstory of this game.

Finding that tear triggers another dialogue where Impa says there is something to do close to Tanagar Canyon, in the Forgotten Temple. In this next place, you will find a mural where you can see all the geoglyphs that you need to find, as well as a map to locate them (Fig. 5). After that, it is up to you to find them or not. It is also here that the player can find the right order to make it coherent story-wise, as each figure

depicts a pretty important memory. Impa’s quest, as many other quests in *Tears of the Kingdom*, is optional.

In *Tears of the Kingdom*, geoglyphs are huge. You can see them from far away, especially at night. These figures depict some important characters (Rauru, for instance), objects (Master Sword, the legendary sword of the series) and even (but that’s the corporate side of Nintendo) a Nintendo Switch (or could be the Pru’ha/Sheikah Slate that has the same shape). You can find them on the ground but also on cliffs or mesas, and even on snowy mountain. This is a clever extension to the Zonaï Tribe’s lore from which Rauru came from, as their architecture and statues were inspired by the pre-Columbian period. As previously said, you can find a dragon’s tear, a fragment of memory of a very distant past in each of them.

This is the same as in *Breath of the Wild*, in which memories could be found thanks to pictures you find in your Sheikah Slate (Fig. 6): again, twelve pictures (plus one extra) depict locations. While some are pretty easy to locate because of topography or geology, others were more complex to reach as they depict a distant past one hundred years be-



Figure 5. Location map of geoglyphs found in the Forgotten Temple. Screen capture from the game.

fore *Breath of the Wild* takes place. Some locations underwent the test of time as some houses, ruins or others things do not exist anymore. That is why some players decide to face this quest by searching some of the places on the Internet.

To avoid replicating that mistake, we

can imagine that the developers of *Tears of the Kingdom* made the great figures easier to find. If they want to focus on that quest, they can easily follow them up until they find a tear (or in some cases a korogu, a small plant-like creature that gives you a seed). Leaving a map in the Forgotten Tem-

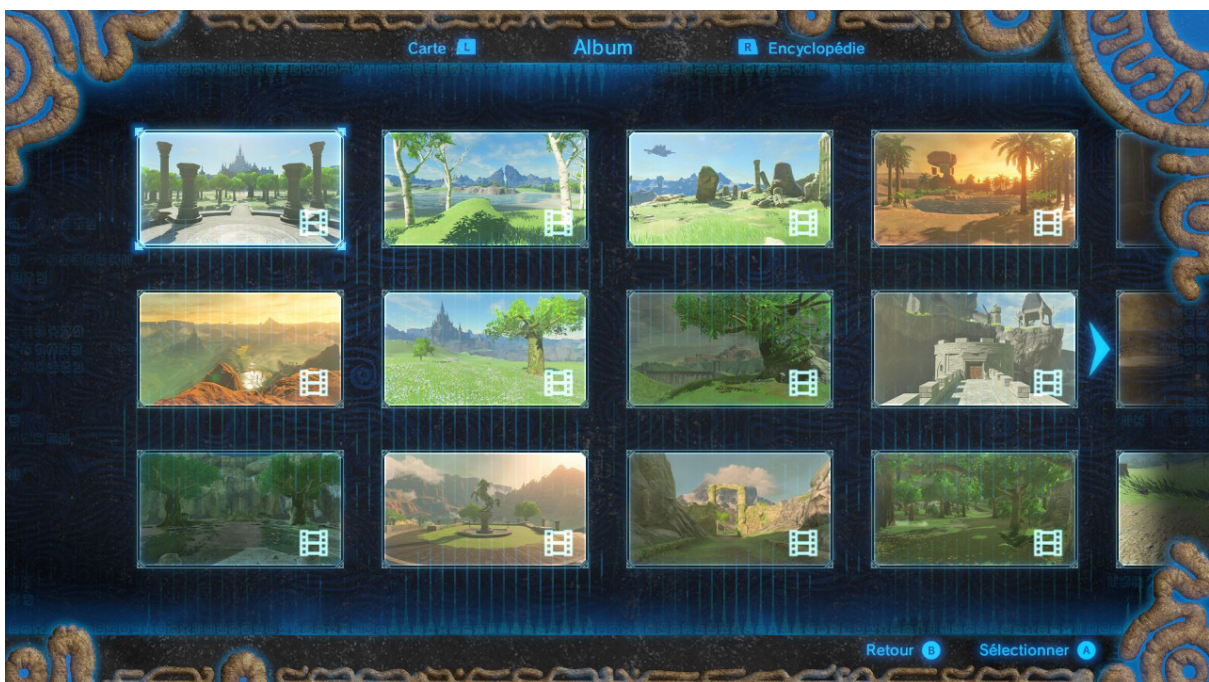


Figure 6. In *Breath of the Wild*, the player needs to find precise locations following some pictures. Each location contains a memory. Screen capture from the game.



Figure 7. Flying or gliding is one of the easiest ways to find geoglyphs. Screen capture from the game.

ple is also a way to help players find the figures without much head-scratching. This method is another trick that Nintendo's developers used to lure in the player.

Additionally, *Breath of the Wild* uses a triangle's method to capture the player's focus and let them find their way in the

huge game environment. That verticality is expressed by a fine-tuned world/game design where the player can be constantly called by their curiosity. *Tears of the Kingdom* uses that method but on a horizontal look for geoglyphs. Or almost, because the player can find the geoglyphs pretty easi-



Figure 8. Geoglyphs can be seen from a very long distance, notably at night. Screen capture from the game.

ly from the sky. One of the main additions over *Breath of the Wild* is Link's ability to go high in the sky (and underground but that doesn't matter in our case). By using Pruha's tower or sky islands, Link can see geoglyphs from a large distance (Figs. 7, 8). He can also use his tablet to pin them with a symbol as a progression mark. With all that stuff, it is pretty easy to locate and finish what a lot of people considered as one of the most important side-quests of the game. By using all these tricks, old ones but also new ones, developers made that quest more attractive than the previous one in *Breath of the Wild*. Let's now find out if these figures are like real Nazca's geoglyphs in the archaeological sense.

CAN TEARS OF THE KINGDOM'S GEOGLYPHS BE CONSIDERED AS REAL ONES?

As we saw earlier, there are two purposes behind the geoglyphs in *Tears of the Kingdom*: developing the story about Zelda and Link's separation, and awakening the hero. But you need to find these geoglyphs and it

is precisely the main use of the figures: locate them. In a sense, *Tears of the Kingdom* is pretty close to reality, as real geoglyphs served to indicate some locations like temples. But they aren't just road signs. *Tears of the Kingdom's* figures do not function like that. In fact, the thing they want to indicate is inside the geoglyph itself, not close to it. As we now know, none of the real geoglyphs depicted history of some kind in a regular way. The people who created those geoglyphs transmitted their history, myths and legends by oral tradition, not by writing (Bacha, 2012; Valenzuela & Clarkson, 2014; Erreca, 2018). But in some of them, we can find some artifacts as pottery or other crockery as gifts to the gods during celebrations. These objects say a lot about the people, the god they worshiped, and the process of that tradition.

But Nazca's geoglyphs are pretty restrictively made, as seen earlier. Two methods were generally used in the intricate process of making them (Valenzuela & Clarkson, 2014; Lambers, 2020), aiming to create contrast between clear and dark soil and rocks. Soil is made of numerous strata. By removing the clearest one and accumulating it on



Figure 9. On the ground, geoglyphs are “drawn” with a kind of fluorescent texture. That completely differs from real geoglyphs. Screen capture from the game.

the side of the hole to create a wall, establishing a color alternance that is the key to see contours of figures. In *Tears of the Kingdom*, it is pretty well illustrated as clear and dark grass or green substance alternate each other to create figures that could be seen better at night (Figs. 8, 9). But that's the thing. In fact, no rocks are used in any of *Tears of the Kingdom's* geoglyphs, even when they are made on a mountain. They use a fluorescent-like substance to prop up the figures, sometimes added to grass (Fig. 9). There are no signs of ground removal or anything like it. Places where geoglyphs were made are also archaeologically incorrect because the glyphs in the game are found in diverse locations such as beaches, plains, mesas, and snowy mountain. Ironically, none of them are found in an arid region like the Gerudo Desert.

CONCLUSION

Tears of the Kingdom's lines are a very good way to correct one of the small complaints players had about *Breath of the Wild* "memory quest" by making them visible and well-integrated in the overall game and narrative design. However, the term 'geoglyph' could be extracted out of context as 'geoglyph' answers to a certain strict definition. In that way, their purpose, use and making are slightly out of the history and respond more to a lore, game and level design perspective than a real appreciation by Nintendo of actual glyphs.

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FURTHER READING

Check out the publications by the Programme Archéologique Animas Altas, available from: <http://paracas.ehess.fr/publications-paaa-ip/>

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Florian Verdier is a video games analyst, journalist and ornithologist, creator of diverse content, notably the first French bird podcast 'Le Courrier de la Sterne' (<https://cdls.lepodcast.fr/>), co-hosted with Sophie Vrand. He is also professor and speaker on ornithology. He interviews some people from the video game industry on 'Traces, le podcast jeu vidéo' (<https://tracesjv.lepodcast.fr/>) and discusses developers' choices on his YouTube channel 'Necheku' (<https://www.youtube.com/channel/UCw-mHJ8hvTi8v4lP1yCS2Q>), also with talks with video game developers.